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THE FACTORS OF SAFETY IN ANIMAL STRUCTURE AND ANIMAL ECONOMY.*

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The living animal body is like a machine in action. Like a machine, its structures are subject to a variety of stresses and, like a machine, the work is accomplished by an expenditure of energy derived from a supply of fuel. I intend to discuss in this lecture whether, as in the human made machines, the structures and functions of the animal mechanism are provided with factors of safety. The term "factor of safety" is employed in engineering to designate the margin of safety required in the building of engines, bridges, houses, etc. For instance, in designing a boiler, if the tensile strength of the steel of which the plates and stay-bolts are made is 60,000 pounds per square inch, the actual stress which is allowed for the work of the boiler should not be more than 10,000 pounds per square inch for the plate and not more than 6,000 pounds per square inch for the stay-bolts; that means the stress to which the plates or the bolts may be exposed in the boiler should only be one-sixth or one-tenth of the actual strength of the steel. The factors of safety are said to be here six for the plate and ten for the bolts. In some instances the required factors of safety may be as low as three, in other cases again they may be as high as twenty and even forty. The character of the stress to which the structures might be subjected is an important point in deciding on the size of the margins of safety. Structures, for instance, which are to be employed for alternating loads require high factors of safety; the highest margin of safety is required when the structures are subjected to rhythmic shocks. In constructing a bridge or a machine, it is then calculated that the structures should be capable of withstanding not only the stresses of reasonably expected maximum loads, but also the stresses of six or ten times the size of such loads. The factor of safety has its foundation in our ignorance of what might happen and in the reasonable desire to meet unexpected contingencies. Some writers are, therefore, inclined to designate the factors of safety as factors of ignorance.

It is obvious that the factors of safety are applicable not only to the structures, but also to the supply and expenditure of energy of the machine. The supply of fuel is calculated to have the engine in readiness not only for expected maximum work, but also to be capable of meeting unexpected contingencies. On the other hand, when there is no exceptional need for it, no engine is allowed to perform maximum work; this economy here is again a factor of safety.

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Are the structures and the functions of the living animal body provided with such factors of safety? As far as I know, that question has never yet been clearly raised, and certainly was never made the subject of a direct investigation. There is, however, no lack of casual remarks bearing on that problem and these are manifestly unfavorable to an assumption of the existence or requirement of factors of safety in animal organisms. On the contrary, there are many to whom it is apparently self-evident that Nature is economical and wastes neither material nor energy. Theories and practical suggestions are based on such a view as a premise which seems to their authors to require no special proof. Verworn, for instance, asserts that the assumption of special inhibitory nerves for skeletal muscles can be rejected, *a priori*, because the presence of such nerves would be a waste of matter and energy and in contradiction with the prevailing principle of economy in the animal body. Another instance is the extreme position held by some recent writers with respect to the supply of energy to the animal machine. Factors of safety, maximum or optimum supply of fuel, do not come in for a consideration in the discussion of these writers.

A MINIMUM DIET THE IDEAL STANDARD OF DIET.

The argument is directed against the use of a dietary standard which represents the average mean supply of energy, the minimum supply of food being considered as the ideal standard of diet. As is known to all, Professor Chittenden and his co-laborers have carried out nutrition experiments of long duration on a number of men. The essential feature of these experiments was the use of a low proteid diet; in some instances the diet was also combined with a considerable reduction in the caloric values of the food. All the subjects of the experiments retained their usual health. Professor Chittenden admits that the diet used in these experiments, especially with regard to the proteid intake, represents the minimum requirement of the human body; he nevertheless earnestly advocates its acceptance as a general standard of diet, assuming *a priori* that the minimum food with which a number of men can manage to live for some time without harm, is the desirable standard of supply of energy for all animal machines. Whereas, in the economy of the human-made mechanisms, and, in fact, in the economies of all human organizations, decrease in supplies and increase in expenditure leads invariably to disaster, it would seem that in the physiologic economy of the living mechanism such a procedure may even lead to a greater efficiency of the mechanism. Professor Irving Fisher tells us recently that nine Yale students, under the influence of prolonged mastication of a diet greatly reduced in proteid and in caloric values, gained very much in endurance in performing certain physical tests.

Is there, indeed, a difference between the economies

of human-made organizations and those of the living organism? I have stated above that the factors of safety in mechanical constructions are, after all, only factors of ignorance. Possibly wise Nature constructs her organisms on such an efficient principle which permits the accomplishment of the greatest amount of work on a minimum supply of material and energy. It would be a fascinating distinction between a dead mechanism and a living organism, if true.

SAFETY AND ECONOMY IN THE ORGANISM.

The subject of this lecture will be an investigation of this question, an investigation whether the structures and functions of the animal organism are constructed with a special consideration for the greatest economy or for the greatest safety. Or, to leave the purposefulness of the organization out of discussion, I may, perhaps, put it more correctly by saying that it will be essentially an investigation into the ratios of the supply of material in many organs of the body to the amount of work they are expected to perform. I believe that the investigation may lead to some instructive general conclusions of a theoretical and practical character. As already stated, the problem seems to me to be new and, as far as I know, no original investigations were carried out with the special purpose of solving it. There are, however, a great many well-established facts brought out in theoretical and practical work undertaken for other purposes, which are, nevertheless, capable of throwing a good deal of light on our problem. Such facts have the advantage of being unbiased witnesses, since no preconceived theory was at the bottom of their discovery. My task will consist in reviewing these facts as far as they are available, or more correctly, as far as they are known to me, and bringing them impartially in proper relation to our problem.

FACTORS OF SAFETY IN THE PLAIN TISSUES.

I shall commence with the plain tissues of the body. In the multitude of studies on these tissues there are not many investigations which could be utilized for our purpose. However, a series of careful investigations, recently published by Triepel, have an intimate bearing on our problem. Triepel investigated the elasticity and resistance of several tissues, like muscle, tendon, elastic tissue, bone, cartilage, etc. For us the following statements are of special interest. For muscle, tendon and elastic tissue, Triepel found that the maximum stretching which may occur in the animal body is not far below that degree which can cause tearing of these tissues. The resistance of bones and cartilages to a crushing stress is, however, far above any stress which might occur in normal life. With regard to muscle, tendon and elastic tissue it appears therefore that the structures in themselves have practically no factors of safety above the maximum stress to which they might be subjected. Any unexpected tension above the maximum occurring in ordinary life might lead to a rupture of these tissues. Triepel, however, calls attention to the fact that the degree of stretching of these tissues is greatly limited by their connections with the structures surrounding them, especially by the skeletal parts. These limitations will, for the most part, prevent these tissues from reaching their breaking point. We may then say that muscle, tendon and elastic tissues have no factors of safety in the structures themselves; but they are provided nevertheless with some such factors by their connections with other tissues. The bones and cartilages, on the other hand, which are but little influenced by other tissues, are provided with a very large margin of safety over the stresses to which they might normally be exposed. Triepel here makes a remark which has a direct bearing on the problem with which we are dealing. He says that the large surplus of material in bone and cartilage tissue shows that Nature does not follow the law of obtaining a result by the smallest possible means.

It is worth noticing that the large margin provided here can not have the object of offering protection against unexpected contingencies coming from within the body, as these, according to Triepel, will never reach even the yield point of these tissues. The protection is here provided against contingencies coming from without, against injuries of external origin. It is a protection not against an internal, a physiologic calamity, but against an external, so to say, pathologic contingency.

SAFETY FACTORS IN THE MORE COMPLEX TISSUES.

A sufficient number of readily available data for the study of our problem we find in researches on complex tissues or organs. We shall begin with the bilateral mechanisms. Here are, in the first place, the kidneys. Every medical man now knows that one kidney can be removed with entire impunity if the other kidney is normal. The amount and the composition of the urinary secretion remains practically unaltered, and this even soon after the removal of the kidney. That can only mean that normally the kidney has an abundance of tissue which can do, at a moment's notice, at least twice the normal amount of work. From the experimental work of Tuffier, Bradford and others we know that at least two-thirds of both kidneys may be removed without serious detriment to the animal's life or to the secretory function of the kidneys. At the same time, we must remember that the normal secretion represents by no means the minimum amount of work of the kidney. We know that the average quantity of the urine, as well as the normal quantities of its various constituents, may be greatly reduced without any visible detriment. In fact, there may be anuria for many days without any serious symptoms, and perhaps also without serious consequences, if the anuria be not due to a disease of the kidney, but to such causes as hysteria, calculus, reflex or compression. The margin of safety in the tissue of this eliminating organ amounts, at least, to twice its normal need.

This would seem to be an unreasonable luxury, a waste. But what a blessing. For a score of years, or more, in many of us the kidney is gradually losing some of its valuable material from one cause or another without any symptom, without a reminder sufficient to spoil our pleasure of life or to hamper our activities. Not until that luxurious surplus is approaching its exhaustion do we get a warning. But then our work is mostly done and our time limit nearly reached.

Next we shall consider the lungs, an organ of supply and elimination of first order. We all know that life may continue though a great part of the lungs be destroyed, if only the disease which caused the destruction came to a standstill. We know that in some cases of pneumonia one lung can be entirely consolidated without seriously impairing the process of ventilation. Furthermore, a patient whose thorax was freely opened to evacuate a one-sided pleural abscess has, after the opening, less dyspnea than before. In empyema, as in pneumonia, it is essentially the infection and intoxication with their reactions which cause the apparent disturbance in the

respiratory mechanism, and not so much the mechanical interference with the ventilation of the corresponding lung. Since the classic experiments of Regnault and Reiset, many investigators have stated that compression of one lung, or a unilateral pneumothorax, exerts very little influence on the respiratory exchange of gases. Hellin reported, recently, a series of experiments on rabbits in which the right lung was completely removed. The right lung of the rabbit has four lobes and is much larger in volume than the left; that means that more than one-half of the lung tissue was removed. Most of the animals survived the operation and some lived a year and longer. Except for a temporary moderate dyspnea, lasting only an hour or two, the animals were in a normal condition, and the respiratory quotient continued to be, after the removal of the lung, exactly as it was just before the operation. We see, then, that the normal process of respiration can be carried out with at least one-half of the lung tissue and probably with a good deal less. We have here, with regard to the quantity of tissue, a factor of safety equal at least to two, which does not appear to be an excessive margin considering the importance of the function which that tissue has to carry out.

Of the bilateral organs of reproduction, we know from numerous surgical operations that the removal of one ovary or of one testicle does not interfere in the slightest degree with the corresponding functions of the individual. For the female organs it has been frequently established that even a small part of one ovary is sufficient to carry on the function of menstruation and conception. In fact, there are a number of reliable cases on record in which pregnancy occurred after the removal of both ovaries, which cases were explained by the assumption that some particle of normal ovarian substance was caught in the ligature and retained in the body, and this fragment was then sufficient to carry out the function of ovulation and conception.

For the testicles we may safely assume also that a small fragment of one testicle left in the body would be capable of carrying on the function of reproduction. But I did not come across experimental or surgical data which directly bear out this assumption. There are definite data with regard to the secondary sexual characteristics in fowls. If in the process of castration some fragment of one testicle is left, the cock, according to Foges and others, does not lose the comb and other secondary sexual characteristics. However, these secondary characteristics are probably connected with the internal secretion of these organs, and their persistence might not be a sufficient proof for the persistence of the function of reproduction. At any rate, it is sufficiently evident, especially as will be seen later, that the tissues of the organs of reproduction are greatly in excess of the maximum need of the chief function of these organs.

Among the bilateral organs there are two whose functions are carried on exclusively by internal secretion. I mean the thyroid and the adrenal glands. We do not notice their activity while they are present, but we recognize their importance by the serious effects which follow their removal. The complete removal of both thyroid glands is followed either by acute symptoms of a tetanic type or by chronic states which are known under the names of myxedema and cretinism. It is, however, a well-established fact that the removal of four-fifths or even five-sixths of both thyroids is not followed by perceptible consequences, which means that one-fifth or one-sixth of the entire gland is amply sufficient to provide the body with the indispensable substance contained in the secretion of the gland. It was just on that account that, at first, the experimental results showing the importance of this gland were disputed by some observers; small accessory glands were hidden in some cases which made the apparently complete removal of both thyroids, ineffective. The thyroid gland possesses accordingly four or five times more tissue than is necessary for the complete maintenance of health and life of the animal.

In recent years some of the symptoms following the removal of the thyroid gland, especially the acute manifestations, are ascribed to the simultaneous removal of the epithelial bodies known as parathyroids. They are four in number. I do not know of a statement dealing directly with the question how much of the parathyroids has to be removed in order to bring out the pathologic effects. However, in the dog the parathyroids are imbedded in the thyroids, two in each lobe, and some of the acute symptoms following the removal of the thyroids in dogs are ascribed as stated above, to the simultaneous removal of the parathyroids. By the removal of four-fifths of the thyroids, surely two and probably three of the parathyroids are also removed. But since the removal of four-fifths of the dog's thyroids is not attended with any evil consequences, we may also conclude that a good deal of the substance of the parathyroids can be dispensed with without any ill effects.

For the suprarenal glands it is now well established that their removal is absolutely fatal to the animal. Death follows within eight to thirty-six hours after the extirpation of the glands, under conditions of low blood pressure, extreme muscular weakness and exhaustion. But the removal has to be complete; if one-tenth of the glands or even less is left in the body, the animal shows no pathologic symptoms. Here, again, as in the thyroid, this fact caused the divergence of opinion which sprang up soon after Brown-Séquard made the discovery of the importance of this ductless organ. In many of the experiments bits of the tissue of that organ were left behind; besides, many an animal hides somewhere accessory organs of the same type. For the adrenals, then, it is evident that the body possesses indispensable tissue at least ten times as much as is necessary for the maintenance of normal life.

The brain is built on a bilateral plan. In former years, when following the lead of Flourens and as a reaction to the teachings of Goll, the brain was considered as a uniform organ, attending only to one function, some facts seemed to demonstrate indeed that there is a great excess of tissue in that organ, since the older experiments of Flourens and newer experiments of Goltz indicated that large parts of the brain could be removed without serious injury to life. To-day we know that the brain presents a collection of many organs, of many centers, the injury of each of which is followed by sensory or motor disturbances in definite areas of the body. As a whole, the bilateralness of the hemispheres does not mean the same as bilateralness in other organs, namely, a duplication of tissue for one and the same function. One hemisphere attends to the needs of one side; for instance, the motor areas of the right arm or right leg are located in the cortex of the left hemisphere, and those of the left arm and left leg are located in the right hemisphere. The same is true of the subcortical centers and apparently also of the medulla oblongata.

To this rule there is, however, an exception, for the motor organs having in charge such muscles or group of muscles which normally contract on both sides simultaneously. The motor area of one side can take charge of the muscles of both sides. Such is the case with the motor areas of the respiratory muscles, the muscles of the larynx, of deglutition, etc. An injury to the motor areas of these muscles in one hemisphere only does not cause paralysis of these muscles. An instance well known to practitioners is the one-sided injury to the motor area of the orbicularis palpebrarum. The muscle, as a rule, is not paralyzed by such an injury, at least not when the muscles on both sides contract simultaneously. As is well known, the absence or presence of paralysis of this muscle in cases of facial paralysis serves as a means to diagnose whether the paralysis is of central or peripheral origin.

An example of an uneconomical principle, to use the expression of Verworn, we find in the bilateral innervation of certain viscera by the pneumogastric nerves. For instance, the normal rhythm of respiration is completely changed when both vagi are cut, whereas when only one vagus is cut, the respiration remains normal. Apparently, one vagus nerve is amply sufficient to carry on the regulation of respiration. A similar condition obtains with regard to the heart beats. For certain animals, the dog, for instance, the vagi carry on an inhibitory tonus. When both vagi are cut, the heart beats are considerably increased in frequency; when only one vagus is cut, the rate does not change. Here, again, a single vagus nerve is sufficient to carry on that inhibitory tonus. Still more striking is the following fact: After cutting both vagi, the animal dies within a day or two from aspiration pneumonia, whereas when only one vagus is cut, the animal not only survives the operation, but is for all purposes apparently perfectly normal. One vagus nerve, then, is amply sufficient to carry on all these functions; but the body is provided with two nerves. According to Verworn, this should be an example of a violation of the principle of economy in the animal body and its existence should be denied *a priori*.

EXCESS OF TISSUE IN THE UNSYMMETRICAL ORGAN.

Further examples of the ample provision of the structures of the body with factors of safety we meet also in the organs of the body which are not built on the bilateral plan, the unsymmetrical organs. We shall mention here first the pancreas with respect to its internal secretion. It is now common knowledge that the complete removal of the pancreas leads to glycemia and glycosuria. But here we note the fact that if a small part of the gland, say not more than one-tenth, is left in the body, no ill effects follow such an extirpation. One-tenth of that gland is capable of completely protecting the animal against glycosuria; but the body is nevertheless provided with ten times as much.

Another striking example is the liver. This organ has many important functions. It converts the sugar into glycogen; it converts the poisonous ammonia compounds into the comparatively harmless urea. It forms bile which carries out poisons from the body, removes waste products, assists in some way or another in the absorption of fats, aids in the digestion of proteids and what not more. But Ponfick found that the removal of one-half of that organ practically does not interfere with the life of the animal, and the successful removal of even three-fourths of the organ does not produce symptoms indicating that any of its functions are seriously interfered with. That organ then is provided with an abundance of active tissue considerably in excess of its normal requirements.

Similar striking examples of factors of safety we meet with in the luxurious construction of the gastrointestinal canal. The entire stomach or the greatest part of it has been removed in animals and man without interfering with digestion and nutrition. Of the small intestines, large parts have been resected without serious consequences. In human beings the largest part removed measured, I believe, over 3 meters, and Erlanger and Hewlett have studied the metabolism of dogs seven or eight months after the removal of 70 or 80 per cent. of the movable part of the small intestines. Three-fourths, then, of the small intestines are almost a luxury to the body. We need not perhaps speak of the fact that surgeons have removed large parts of the colon without ill effects. From the present attitude of bacteriologists and physiologic chemists toward the activities of the large intestines, one is led to believe that the body might do best without any part of that organ. Be this as it may, it is quite sure that the digestive canal is provided with a good deal more structure than is required for the maintenance of its function.

Here we shall discuss briefly also the luxurious provision of the alimentary canal with digestive ferments. There are two proteolytic ferments, pepsin and trypsin, to which we may add also erepsin, a ferment found by O. Cohnheim in the mucous membrane of the small intestines, and which is said to be capable of splitting albumose into amino acids. There are two amylolytic ferments, the ptyalin of the salivary glands and the amylopsin of the pancreas. As to lipolytic ferments, the steapsin of the pancreas is not the only one of that kind which reaches the contents of the digestive canal. Thus several investigators have recently confirmed the statement of Volhard that the fundus of the stomach secretes a lipase which is capable of splitting emulsified fat. Lipase is contained also in the liver and in the bile.

Now, there are a number of experiments and clinical facts which go to show that digestion can continue in normal fashion, even if one-half or at least a good part of these ferments are eliminated from the digestive tract. Older and recent experiments have established the fact that the removal of the salivary glands has no effect on the digestion. We know, on the other hand, that after removal of the pancreas, or in cases of isolated destructive diseases of this organ, the digestion of carbohydrates is not disturbed. Normally, therefore, there is a superabundance of amylase in the digestive canal. As to the proteolytic ferments, we have already mentioned that the complete removal of the stomach does not disturb digestion. Furthermore, in cases of achylia gastrica, in which the stomach secretes neither hydrochloric acid nor pepsin, the proteid digestion is apparently normal. On the other hand, we know that the elimination of the pancreas does not affect palpably the proteid digestion. With regard to lipase, clinical pathology was teaching that in cases of disease of the pancreas the stool contained fat, which would seem to indicate that, in the absence of the pancreatic lipase, no other lipolytic ferment was present in sufficient quantity to split completely the ingested fat. However, in a very recent study of Umber and Brugsch it was shown that the fat-splitting function is carried on, even in the absence of the pancreas, in a normal way.

We are, then, surely justified in claiming that the vari-

ous digestive ferments exist in the alimentary canal in quantities far above the necessities for the digestion of a normal amount of food.

THE EXTRAVAGANCE OF NATURE.

All the numerous organs and complex tissues which we have just passed in review are built on a plan of great luxury. Some organs possess at least twice as much tissue as even a maximum of normal activity would require. In other organs, especially in those with an internal secretion, the margin of safety amounts sometimes to ten or fifteen times the amount of the actual need. An extreme degree of superabundance and actual wastefulness we meet with in the organs and functions having charge of the continuation of the species. Let us illustrate it by the following few data: The ovum exists for the purpose of reproduction. Assuming that the sexual function of a woman lasts forty years and assuming, further, that every ten months of these years would be taken up by a pregnancy, then only fifty ova would be required of the ovary. But assuming even that a regular menstruation is an essential and indispensable part of the sexual function, then five hundred ova would be the maximum that the function of reproduction could use. Nevertheless, we find that the ovary of the new-born female child possesses between 100,000 and 400,000 eggs, and at the time of puberty there are still about 30,000 ova ready to enter on their possible mission. That is, the ovary contains at puberty sixty times more ova than the body could possibly ever employ. But there is an incomparably greater waste in the provision of the male germ. According to Rohde, each ejaculation contains 226,000,000 of spermatozoa. Now, we know that of all these legions only one single spermatozoön is required and only one can be used. What a marvelous waste of living cells for the sake of assuring the perpetuation of the species. But there are some attenuating circumstances. With a velocity of only 0.06 of a millimeter per second, with the dangers of crossing the sea of fatal acid vaginal secretions and with a resistance to the onward progress offered by the cilia of uterine epithelium swaying in the opposite direction, not too many of the storming millions stay in the race and have a chance to reach the goal. At any rate, it is not by economy, but by immense waste of cell life that the chance for continuation of the species is assured.

In striking contrast to the extreme luxuriousness of provision of tissue in the organs previously described stands out the comparative scantiness of cell tissue in some organs—if we may call them so—of the central nervous tissue. The centers of the medulla oblongata, for instance, present such minute bodies that hardly a part of any center could be injured without endangering the entire function. Any injury to the respiratory center suspends immediately and permanently the function of respiration. The possible existence of some respiratory centers in the spinal cord does not alter the practical result. The same applies to the center of deglutition. The blood pressure, as we shall see later, is provided with quite a large number of safety factors. However, the immediate effect of an injury to the vasomotor center is a dangerous drop in blood pressure, the restitutions and compensations over which the mechanism commands are not forthcoming until after a long interval. We may point out, however, that the central nervous system is provided externally with factors of safety against two of its main enemies: it is protected by a bony encasement against any physical injury, and especially is the medulla oblongata well hidden away, and it is protected by an abundance of blood vessels against dangers of anemia.

Following the old divisions of the organs of animal life into reproductive, vegetative and animal systems, we may say, perhaps, that the reproductive system is provided most and the animal system is provided least with factors of safety, while in the vegetative system, which in that regard occupies a middle position, those organs which seem to be less well differentiated, like the organs for internal secretion, seem to be provided with a larger surplus of tissue.

FACTORS OF SAFETY IN THE CIRCULATORY APPARATUS.

The complex apparatus of circulation is well provided with factors of safety. In the first place, the animal body possesses a good deal more blood than it requires for its work. It is known by experimental evidence and clinical observations that nearly one-half of the blood can be withdrawn without serious consequences to the life of the animal. As a further factor of safety in this regard we might register the ability of the blood to recover its loss very rapidly.

Furthermore, the capacity of the entire system of blood vessels in a completely relaxed state is again much greater than the volume of blood of the body. It is this difference between the volume of blood and the volume of the vessels which greatly facilitates the circulation of the blood and the proper nutrition of the various organs of the body. On the basis of this difference large quantities of blood can be thrown at once and with ease into the splanchnic region, into the skin or into the working muscles. After a local injury or infection in a very brief time for the sake of repair or defense hyperemia sets in, and vessels which were not noticeable before become fairly visible. An instance of a similar order is the widespread institution of collateral circulation. Around an anemic focus blood vessels which previously were hardly visible become full and large to meet the threatening danger of necrosis of the neighboring anemic tissues. All these devices which spring into activity only under special exigencies are manifestly factors of safety and are made possible by superabundance of blood vessels.

The difference between blood volume and capacity of vessels is an indispensable factor of the circulation, and its permanence is assured by many devices. Thus, for instance, any artificial increase of the volume of blood is immediately corrected through the chief eliminating organs, or through the secretory glands, or even by throwing some of the surplus serous fluid temporarily into the lymph spaces and serous cavities. Edema, ascites and hydrothorax are sometimes not parts of the affliction, but means of repair.

Furthermore, existence of the difference between vascular capacity and quantity of blood is made possible only by a wonderful mechanism which controls in every part of the body the mutual adaptation of blood and vessel—the so-called vasomotor apparatus. It causes the dilatation of the vessels in the part of the body which requires and is to receive more blood, at the same time causing a constriction of the vessels in a part which can spare some of its blood. This mechanism is so important that it is again guarded by an abundance of factors to assure its safety. There is a vasomotor center in the medulla oblongata; when this is destroyed a number of vasomotor centers in the dorsal medulla assume control; when they are eliminated the sympathetic ganglia take over the command, and when they too drop out the

vascular wall itself attends to the proper regulation and adaptation of the capacity of the vessels to the volume of blood.

Finally, the chief motor mechanism of the circulation, the heart, is a clear instance of an organ provided with a superabundance of volume and force. Normally it is in a state of tonus and receives only a moderate volume of blood which it throws into the aorta with no great hurry and with an expenditure of only a moderate amount of energy. But at any moment it is ready to receive many times the usual volume of blood, is ready to double or treble the rate of its beats and is capable of developing nearly any amount of energy which the situation might require of it. It is a wonderful, prompt, adaptive motor mechanism with a good reserve of force.

We have, then, in the circulatory system many instances of provisions with factors of safety to assure the nutrition of all parts of the body in all states and conditions. An abundance of blood, a superabundance of blood vessels, a vast provision of factors for the safety of the adaptation of the two to one another and a great reserve of motor force for transportation and distribution of the blood.

The multiple mechanisms existing for the care of the vasomotor apparatus lead us to the following considerations: The internal motor organs of the body, like the gastrointestinal canal, the heart, the uterus, etc., are provided with central motor innervations as well as with local motor mechanisms. In all cases it has been shown that the movements of the organs continue also after the severance of the connections with the central nervous system. Thus the heart continues beating after section of both vagus and accelerator nerves, the peristalsis of stomach and intestines continues after cutting the vagi and the splanchnics, and pregnancy and delivery take a normal course after complete destruction of the spinal cord.

On the basis of these facts it is now generally assumed that the extrinsic innervations of these organs have only a regulating function, while the real motor function is invested in peripheral devices, be they of neurogenic or of myogenic character. This conclusion is obviously based on the supposition that the function of an organ is carried on only by a single mechanism. Hence the fact that the motor work is carried on after eliminating the extrinsic nerves seems to be sufficient evidence that they can not form an integral part of the motor function.

These conclusions are fallacious. There are an abundance of instances in which one and the same function is cared for by more than one mechanism. But we need only refer to the vasomotor apparatus. It was known before, and it has been very recently conclusively demonstrated again by Magnus, that after eliminating the influences of the sympathetic and the central nervous system the blood pressure is well taken care of by the peripheral mechanism of the walls of the blood vessels. Nevertheless, nobody doubts that the vasomotor centers are integral parts of the vasomotor mechanism. Why this difference of views for the different organs of the body?

The subject is evidently an important one; but we shall not enter into a further discussion of it. The remarks were made to illustrate the importance of the conception that in the animal body one function is not infrequently cared for by more than one mechanism. It is capable of profoundly affecting the views on many vital biologic problems.

DUPLICATION OF MECHANISMS AND ORGANS.

We shall cite a few more instances in which two or more parallel mechanisms exist for the accomplishment of one function. I may be permitted to mention in the first place the function of deglutition. As was shown by us about twenty-five years ago, fluids and semifluids are squirted down from the mouth to the cardia by the force of the contraction of the mylohyoid muscles, but they can also be carried down by the peristalsis of the esophagus. Of the latter there are again, as I have recently shown, two kinds: a primary peristalsis which runs independently of the integrity of the esophagus and a secondary peristalsis which is closely connected with the integrity of the tube and which is more resistant to certain detrimental influences. It will probably be shown before long that the esophageal wall alone is also capable of contributing to the function of carrying the food down to the stomach.

The functions of the pancreatic secretion seem to be an instance in which mechanisms of a different type are sharing in its management. It has long been established that the pancreatic secretion stands under the influence of the central nervous system. Recently it was discovered by Bayliss and Starling that an intravenous injection of secretin causes a considerable increase of pancreatic secretion. Secretin is an extract made of the duodenal mucosa with an addition of hydrochloric acid. It is assumed that this substance is produced normally when the acid chyme comes in contact with the mucosa of the duodenum, and that by its absorption into the circulation it is one of the normal causes of pancreatic secretion. Now, the effect of the secretin seems to have nothing to do with the nervous system, since the injection is active even after all connections with the nervous system are destroyed. On the other hand, in cases of achylia gastrica, in which the stomach is devoid of all secretion, the pancreatic secretion is apparently normal, as the digestion of proteids remains undisturbed. But since in these cases there is no secretion of hydrochloric acid, secretin ought to be absent; here the pancreatic secretion is probably attended to properly by the other partner in the management of the function; that is, by the central nervous system.

A double management of partners of a different type exists probably also for the mammary secretion. There is sufficient evidence that the secretion of milk is under the influence of the nervous system. Nevertheless, the secretion continues after all nerves going to the mammary gland are cut. The milk secretion in the latter case is probably kept up by a stimulation through an internal secretion provided by the reproductive organs. Internal secretion is probably a co-existing factor in many functions of the body.

Furthermore, there are instances in which one function is cared for by two separate organs. The function of digestion of proteids in the alimentary canal is carried on by two separate organs with a different chemical activity: the pancreas and the stomach. The trypsin of the pancreas digests proteids in an alkaline medium, while the pepsin of the stomach is active only in an acid medium.

An arrangement of a similar character we meet with in the organization of the function of the defense of the body carried on by the white cells against foreign invaders. This cellular army of defense is made up of two types: the microphages, the polynuclear leucocytes whose abode is in the bone marrow, and the macrophages, the

large mononuclear cells which have their barracks in the lymph nodes and lymphoid tissue. According to Opie, one of the effectual weapons of these warriors is their intracellular proteolytic ferments. But the ferment of the microphage is active in an alkaline medium, while that of the macrophage requires for its activity an acid medium.

As factors of safety we may consider also the assistance which one organ lends to another or the vicariation of one organ for another. For instance, the assistance which the sweat glands render to the kidney in the process of elimination of a surplus of water, or the vicariation of the mucous membrane of the intestinal canal in the process of elimination of urea. Such mutual assistance of the organs is a widespread institution in the animal body and assures the safety of many vital functions.

MODE OF DISTRIBUTION OF THE ACTIVITY AMONG THE TISSUES.

Returning to the organs which are provided with a large surplus of active tissue, the question confronts us: Which is the mode of distribution of the normal activity of an organ among its luxurious tissues? Since the activity of such organs, as we have seen, is far below the capacity of their tissues, the distribution could occur only in two ways. Either some part of the tissues work to their full capacity, while the other parts remain idle, being only in readiness for emergencies—like the unemployed vice-president of some organization—or all elements of the organ take equal part in the work, each tissue-element employing only a fraction of its capacity for work. The last alternative is probably the more frequent mode of distribution. There are, for instance, probably no totally inactive glomeruli and tubules in the kidneys, no inactive liver cells, no thyroid epithelial cells entirely without colloidal substance, but the epithelium of the glomeruli and tubules work only one-half of their capacity, the islands of Langerhans work less than one-tenth, the vesicles of the thyroid about one-sixth of their capacity, etc. For the muscles of the heart it is generally assumed that all the fibers take part in every contraction, but that they work normally only a fraction of their capacity. On the other hand, there are organs in which surely parts of the tissue do not take active share in the work, unless called on under special circumstances. In the ovaries, for instance, surely only one ovum becomes fertilized, while all the others are only on the waiting list. An instructive instance is the mode of distribution of work among the respiratory muscles. In normal inspirations, for instance, we find only the diaphragm alone at work. When somewhat deeper breathing is required, the inspirations are supported by the levatores costarum and the scaleni. Furthermore, in labored respirations also the sternohyoid and the posterior superior serrati become engaged in the work, and when the difficulties become still greater still other groups of muscles enter into the struggle. In other words, the different groups of muscles which are designated to do the work of inspiration are not engaged in it in the manner of partners of equal standing, but enter on their duties as a series of vice-presidents, or, rather, as a series of reserve forces. On the other hand, in the diaphragm probably all the muscle fibers are engaged in the work of each inspiration at all times, employing only a fraction of their capacity in normal or shallow inspiration and working to their utmost capacity in dyspnea or asphyxia. We see, therefore, in one and the same function both modes of distribution of work well represented, one muscle steadily at work with all fibers, like a heart, adapting the degrees of their energies to the various requirements of their work, and a number of groups of other muscles, acting as graded reserve forces, idle but ready for emergencies—instructive examples of luxurious factors of safety.

In the foregoing we have brought forward a sufficient number of instances in which various parts of the living organism are provided with a superabundance of material and energy to warrant the comparison of the organism with a machine with regard to the provision with factors of safety.

FACTORS OF SAFETY FOR THE FACTORS OF SAFETY.

One of the fundamental differences betewen living organisms and human-made machines is that the former carries in it the germ for self-propagation, while machines have to be made by human hands. As a further difference between the two constructions we may perhaps consider the phenomenon of the self-repair. Possibly the phenomenon of self-repair in the organism is closely allied with the phenomenon of self-propagation. The same source which provides the organism with a mechanism for a reproduction of the entire body provides its parts with a mechanism for regeneration of these parts. Reproduction and regeneration might have a common cause. At any rate, self-repair distinguishes the organism from the machine. If parts of a machine yield to stress and the factors of safety become exhausted, the machine would surely break down, unless it is repaired by human hands, just as it is made by human hands. As far as I know, no machine has yet been invented which is provided with devices for a continual self-repair. In the living organism self-repair is a widespread function of living tissues and organs. It is a dormant force, a reserve force, which springs into immediate activity as soon as any injury is inflicted. It is a factor of safety peculiar to the living organism. It manifests itself in the forms of regeneration and hypertrophy of tissues and organs, and also in the functional forms of inflammatory reaction, of substitution, vicariation and adaptation. And here it is interesting to observe that self-repair does not set in only when the margin of safety is exhausted, when there is an actual need for repair, but already when only the integrity of the factors of safety is encroached on. Self-repair is a factor of safety also for the protection of the factors of safety. When, for instance, one kidney is removed, the hypertrophy of the secreting elements begins a few hours later, although the urinary secretion was hardly impaired. It is an attempt to reprovide with luxurious tissue. The liver cells regenerate, the thyroid, the adrenals and other organs hypertrophy and regenerate even when the preceding injury was not extensive enough to affect the function of these organs. It is, as stated before, an attempt to restore the factors of safety. A heart working above normal becomes hypertrophied even if it has not yet met with any obstacles; it is a provision in time against possible shortcomings; it is a repair of the factors of safety. This is a very interesting field, but it would lead us too far to enter on a detailed discussion of the various aspects of the subject.

TWO EXCEPTIONS.

We would only call attention to two exceptions. One is the very scanty repair which takes place in the organs of reproduction. But the affluence is here so immense that the organs may safely forego the benefits of self-

repair. The other exception concerns the nerve ganglia; nerve cells, as a whole, do not regenerate. We have learned above that the ganglionic masses of the central nervous system are scantily provided with factors of safety. Here we learn that they are also deprived of the great aid afforded by regeneration. There is some functional self-repair in the central nervous system. Other centers assume the work of the lost ones; adjacent tissues become educated to the work; dormant centers of the opposite hemispheres awake gradually to their new missions. But all these substitutes are insufficient satisfactorily to replace the lost function, not to speak of a provision for factors of safety.

Here we must recall that the lack of regeneration applies only to the nerve cells. The nerve fibers, on the other hand, especially those of the peripheral nerves, show rather a very active regeneration.

The foregoing review shows, I believe, conclusively, that the tissues and organs of the living animal organism are abundantly provided with factors of safety. The active tissues of most of the organs exceed greatly what is needed for the normal function of these organs. In some organs the surplus amounts to five, ten or even fifteen times the quantity representing the actual requirement. In the organs of reproduction the superabundance and waste of tissue for the sake of assuring the success of the function is marvelous. Furthermore, the potential energies with which some organs, like the heart, diaphragm, etc., are endowed are very abundant and exceed by far the needs for the activities of normal life. The mechanisms of many functions are doubled and trebled to insure the prompt working of the function. In many cases the function of one organ is assured by the ready assistance offered by other organs. The continuance of the factors of safety is again protected by the mechanisms of self-repair peculiar to the living organism. We may, then, safely state that the structural provisions of the living organism are not built on the principle of economy. On the contrary, the superabundance of tissues and mechanisms indicates clearly that safety is the goal of the animal organism. We may safely state that the living animal organism is provided in its structures with factors of safety at least as abundantly as any human-made machine.

ECONOMY OF EXPENDITURE AS A FACTOR OF SAFETY.

The safety of a mechanism is increased, as we have stated before, also by an economic handling of the expenditure of its energy. The expenditure of energy by the living animal organism consists chiefly in the work which it performs, that is, the contraction of the muscles. Of the involuntary work of the body it is only the action of the heart and the respiratory muscles of which we possess a knowledge of some available facts. The heart, although capable of doing a great amount of work, is normally kept down to perform only the most indispensable duty. The inhibitory tonus exercised by the vagi prevents the heart from beating too rapidly and too strongly when it is not required, and the vascular reflexes carried from the heart or aorta to the vasomotor centers regulate the vascular circulation so as not to offer too much resistance on the one hand and not to fill up the heart with too much blood on the other hand.

The respiration is normally carried out only by one muscle, the diaphragm, and this works only with a fraction of its capacity, the distension of the lungs producing an inhibitory stimulus preventing the muscle from overaction.

The contractions of the skeletal muscles being regulated chiefly by the will offer insufficient opportunities for a study of the normal regulation of expenditure of energy emanating from this source. There are, however, two facts which are instructive and deserve to be mentioned. One is the provision of the muscle with the sense of fatigue setting in with overexertion; it might serve as a guard against overwork, against exhaustion of the muscles. The second fact is the provision of the muscular innervation with inhibitory impulses for antagonistic muscles; it prevents harmful or even only unnecessary contractions. In other words, it prevents the muscles from an unnecessary expenditure of energy. While the facts are not many, they are sufficient to indicate the tendency of the organism to be economical in its expenditure of energy.

FACTORS OF SAFETY IN THE SUPPLY OF ENERGY.

We now arrive at the examination of the principles governing the supply of the organism with energy. A machine is provided with fuel far above the necessity for the performance of the expected minimum work; it has to be in readiness for unforseen exigencies. How about the organism? The supplies for the animal machine consist of inorganic salts, water, oxygen and food. Our knowledge of the laws governing the supply and expenditure of water and inorganic salts for the animal organism are still too imperfect to be utilized here for the elucidation of our problem. We have to restrict our discussion to the supply of food and oxygen. The supply of food is influenced so much by the will of the animal that it is difficult to obtain facts permitting only one interpretation. For instance, the amounts of food taken by men in all parts of the world can not be taken as the normal quantity which the body requires, because, as Chittenden and his school say, this amount is dictated by habit and not by actual necessity. The latter found, as stated before, that with a proteid diet lower than the one employed in the current diet of man, a number of men continued their normal life without special incidents. As a result of this observation these investigators assume that the minimum proteid diet is the normal one and advocate its adoption as a standard diet.

The finding that men can continue to live with a certain minimum is a fact; the assumption that this minimum is the actual requirement of the organism is, however, only a theory, and a theory which decides that, in contrast to a human-made machine, the animal machine should be provided with a minimum supply of energy just sufficient for the average daily incidents and daily work. Neither can we, on the other hand, look on the facts which we have brought together as an absolute proof that the animal's supply of energy ought also to be provided on the same plan of superabundance. It may be claimed that the animal's welfare is best cared for by observing stringent economy in the supply of its energy.

SURPLUS OF OXYGEN.

Luckily, however, the supply of oxygen to the organism is a process practically entirely independent of the will, and, therefore, a fact or two which we find here may well throw some light on our problem. One fact here is, indeed, instructive. It is a frequently made and well-established observation that the oxygen of the inspired air may be reduced to about one-half of its normal amount without causing any ill effects whatsoever. The oxygen of the atmospheric air amounts to about 21 per cent., and it may safely be reduced to about 11 per cent.

or 10 per cent. Nature, then, supplies oxygen to the animal body in an abundance, amounting at least to twice the maximum quantity which the normal condition of life may require.

Furthermore, even with an atmosphere greatly reduced in oxygen, the body is capable of attending to work so strenuous that it may cause a consumption of oxygen perhaps five times the amount normally used up during rest or light work. This occurs, as was demonstrated in the interesting experiments of Zuntz and his co-laborers in climbing mountains and carrying at the same time considerable loads at altitudes with a barometric pressure of less than 500 millimeters of mercury. We should also remember another instructive and characteristic fact, namely, that the venous blood is comparatively still rich in oxygen, possessing often nearly two-thirds of that present in the arterial blood, which means that the oxygen carried in the arterial and capillary blood is greatly in excess of the requirements of the cellular tissues.

Finally, another interesting point is that labored breathing sets in long before the tissues are in actual need of oxygen. Dyspneic breathing is a device to cause a refilling of the exhausted surplus of oxygen by a more efficient pulmonary ventilation. The hard working skeletal muscles which consume an undue amount of oxygen produce at the same time a substance which stimulates the respiratory center to greater activity and thus to a more liberal provision of oxygen. This is, again, a sort of self-repair of the loss to the factors of safety. All this is sufficient evidence that, as far as the oxygen is concerned, the supply of the body with energy is certainly not conducted on the principle of stringent economy. On the contrary, abundance is the guiding rule here, as it is in the provisions of the body's structures.

We now again return to the question of supply of food. The presence of an abundant supply of glycogen and fat in all animal bodies seems to me to be a sufficient indication that carbohydrates and fats are not supplied on the principle of stringent economy. Fuel material is here abundantly stored up, not so much for its immediate use, but essentially for use in unforeseen exigencies. As far as I know the claim has not yet been raised that these savings deposits are due only to acquired habits of ingesting too much of the mentioned forms of food.

With regard to the proteid diet, however, the question of the normal supply, as we have repeatedly mentioned, is not above discussion. In a recent review of the subject by Benedict one of his precise statements reads: "Dietary studies all over the world show that in communities where productive power, enterprise and civilization are at their highest man has instinctively and independently selected liberal rather than small quantities of protein." Chittenden, on the other hand, says: "All our (experimental) observations agree in showing that it is quite possible to reduce with safety the extent of proteid catabolism to one-third or one-half that generally considered essential to life and health." And then adds: "It is obvious . . . that the smallest amount of food that will serve to maintain bodily and mental vigor . . . is the ideal." As valuable as the facts which Chittenden and his co-laborers found may be, they do not make obvious their theory that the minimum supply is the optimum—the ideal. The bodily health and vigor which people with one kidney still enjoy does not make the possession of only one kidney an ideal condition. The finding that the accepted standard of proteid diet can be reduced to one-half can be compared with the finding that the inspired oxygen can be reduced to one-half without affecting the health and comfort of the individual. But nobody deduces from the latter fact that the breathing of air so rarified would be the ideal. Chittenden suggests that a greater use of proteid might be the cause of many ills, for instance, of gout and even of tuberculosis and cancer. I shall not attempt to discuss the merits of this theory as far as the causation of tuberculosis and cancer is concerned. As to the causation of gout, one of Chittenden's most able supporters, Otto Folin, has pointed out that, at best, this could be claimed only for eating crude meat, but not for an ingestion of protein in general, because the latter becomes converted into harmless urea, as Folin says. I would add that if we should avoid eating meat because some of us might sometimes get gout we should surely avoid eating carbohydrates because it sometimes leads to diabetes, and avoid eating fats because it often leads to various mischiefs. What, then, shall we eat with absolute impunity?

But I wish to recall here one fact, namely, that the administration of too large a dose of thyroid extract leads to a pathologic condition similar in character to that of Graves' disease. The normal body, nevertheless, possesses, as we have shown above, a great surplus of thyroid tissue without causing any thyroidism. That some isolated metabolic product might do some harm when artificially incorporated into an animal is far from being fair evidence that this normal product of the animal mechanism does harm there when in its normal connections. Metabolic products are present in great abundance in all healthy individuals without causing mischief.

STORAGE OF PROTEID.

The situation seems to me to be this: All organs of the body are built on the plan of superabundance of structures and energy. Of the supplies of energy to the animal we see that oxygen is luxuriously supplied. The supply of carbohydrates and fats is apparently large enough to keep up a steady luxurious surplus. For the supply of proteid we find in the actual conditions of life that man and beast, if they can afford, provide themselves with quantities which physiologic chemists call liberal. This may or may not be the quantity of which Nature requires and approves. Experiments have shown that a number of men subsisted on half of such quantities. This latter might be an indispensable minimum, just as there is an indispensable minimum for all other luxuriously endowed provisions of the animal organism, and the liberal ingestion of proteid might be another instance of the principle of abundance ruling the structures and energies of the animal body. There is, however, a theory that in just this single instance the minimum is meant by Nature to be also the optimum. But it is a theory for the support of which there is not a single fact. On the contrary, some facts seem to indicate that Nature meant differently. Such facts are, for instance, the abundance of proteolytic enzymes in the digestive canal and the great capacity of the canal for absorption of proteids. Such luxurious provision for digestion and absorption of proteids is fair evidence that Nature expects the organism to make liberal use of them. Then there is a fact that proteid material is stored away for use in emergencies, just as carbohydrates and fats are stored away. In starvation nitrogenous products continue to be eliminated in the urine which, according to Folin, are derived from exogenous sources, that is, from ingested proteid and not from broken-down organ tissues. An interesting example of storing away

of proteid for future use is seen in the muscles of the salmon before they leave the sea for the river to spawn. According to Mescher the muscles are then large and the reproductive organs are small. In the river, where the animals have to starve, the reproductive organs become large, while the muscles waste away. Here, in time of affluence, the muscles store up nutritive material for the purpose of maintaining the life of the animal during starvation and of assisting in the function of reproduction. This instance seems to me to be quite a good illustration of the rôle which the factor of safety plays also in the function of the supply of the body with proteid food. The storing away of proteid, like the storing away of glycogen and fat, for use in expected and unexpected exceptional conditions is exactly like the superabundance of tissue in an organ of an animal or like an extra beam in the support of a building or a bridge—a factor of safety.

I, therefore, believe that with regard to the function of supply of tissue and energy by means of proteid food Nature meant it should be governed by the same principle of affluence which governs the entire construction of the animal for the safety of its life and the perpetuation of its species.

Before concluding I wish to add the following remark: It seems to me that the factors of safety have an important place in the process of natural selection. Those species which are provided with an abundance of useful structure and energy and are prepared to meet many emergencies are best fitted to survive in the struggle for existence.

Rockefeller Institute for Medical Research.

Original Articles

CLINICAL PHYSIOPATHOLOGY.

THE NEED OF A NEW CLASSIFICATION OF DISEASES OF THE NERVOUS SYSTEM.*

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One who meets large numbers of undergraduates in the class room and general practitioners in consultation is often confronted with the assertion that neurology is the hardest, or at least one of the hardest, branches of scientific medicine to comprehend.

Some genuine difficulties must be present in order to account for the prevalence of such an opinion. It would be absurd to assume that so many intelligent men can not grasp what to others of no greater mental capacity seems so easy of comprehension and so self-evident.

The view has been expressed, and in my judgment rightly so, that for preciseness, reasonableness and scientific accuracy the teachings and findings of modern neurology give this department of medicine a rank second only to that of ophthalmology. If this view be but approximately correct, then it would seem that many intelligent men are not as capable as they appear to be, or else they are being handicapped by some previously acquired prejudice, erroneous conceptions or false deductions. The latter, I am sure, is the true explanation. The source of the whole trouble, I believe, may be uncovered by saying that the two classes of men, the pessimistic and the optimistic, are regarding the nervous system, both in health and in disease, from quite different standpoints, and that these different standpoints are respectively the anatomic and the physiologic.

I. THE ANATOMIC CONCEPTION OF DISEASE.

As a pure science, anatomy for centuries has been laying a splendid foundation for the beginning of the study of disease and for the elaboration of surgical and other mechanical means of treatment. Except some scattered observations of a few microscopists prior to Virchow's time, little of value was known of the minute structure of the human frame. There was no real pathology except along coarse and crude lines. The classification of diseases and their nosology were based wholly on symptomatic manifestations, and, as is the case largely with psychiatry to-day, the morbid entities known to general medicine were nothing more than groups of symptoms.

Ere long improved microscopes and microscopic technic widened the confines of histologic knowledge. The structure of the organized tissues became better known until finally the great cellular doctrine was promulgated and Virchow's own epoch-making labors culminated in "The Anatomic Principle in the Study of Disease." This address, now one of the treasured classics of medical literature, summed up so practical and so far reaching a scientific generalization which was apparently so well based on established data that disease as portrayed in it was identified almost solely with change of anatomic structure. A tremendous impetus had been given by the cellular doctrine to morphologic and pathologic study. Brilliant discoveries had been made and some marvelously happy correlations had been established between long-recognized clinical phenomena and postmortem findings. This together with the fact that the teachings of the cellular doctrine and all that rests on that doctrine were easy of comprehension and flattered that human weakness whereby men are led to accept what is perceived by their senses as true and what is not so perceived as doubtful or not true, accounts for the ready and continued popularity of this anatomic conception of disease. Clinical medicine, especially surgery, is dominated by it to-day. It stands as the evidence of a tremendous advance on the old symptomatic conception, and it has placed Virchow's name among those of the world's master minds.

During the last few years, however, a change has been going on in clinical and academic medicine, steadily and positively, yet so silently and insidiously that many who do not recognize it are confused and discouraged. Just as Virchow saw the untenability of the older anatomic conceptions and mere symptomatic classifications of disease before his day, many clinicians and pathologists are now beginning to recognize the inadequacy of morphologic changes and structural deviations to account for the multifarious symptoms of practical medicine. Something more than an anatomic conception of disease is needed, and hence was see the older science of anatomy reluctantly, though surely, yielding to her younger sister, physiology, the guiding strings in the ultimate solution of the problems of disease.

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II. THE PHYSIOLOGIC CONCEPTION OF DISEASE.

Practical medicine has to do with living, functionating beings, whereas structural pathology investigates and draws its deductions from postmortem, non-living or at least highly altered tissues. Whether the disease process or the laboratory manipulation be the responsible agent, it is none the less true that the tissues which the pathologist investigates are not the same tissues which constituted a part of the living, though sick, man. It is the absence of the physiologic factor and all that it includes which differentiates the tissue under the microscope from the same tissue when a part of the living organism. For this reason, so obvious that one is amazed physiology has been thus long in assuming its rightful rôle in relation to clinical medicine, the anatomic conception alone of morbidity must always prove inadequate. Happily, scientific medicine has at last awakened to the realization of this truth; and on every hand evidences are beginning to appear that physiology, including physiologic anatomy, is being recognized as the proper guide in the interpretation of morbid phenomena. Pneumonia is no longer regarded as a disease merely of lung tissue. Typhoid fever is something more extensive than the ulceration of Peyer's patches. The rheumatic group of troubles are not alone confined to joint and muscular inflammations. Cardiac manifestations do not always depend on cardiac lesions. These and many other familiar examples demonstrate plainly how disturbed physiologic functions brought about by toxic blood states and ruptured harmony of action between the various parts of the entire organism, are of more importance than mere anatomic findings. Indeed, in connection with many diseases in which hitherto we had supposed that the structural changes observed after death were adequate to explain the whole process, we are beginning to question whether those structural changes are not to be classed rather as mere secondary, unimportant by-products. At all events, abnormal physiology is becoming more and more the interpreter of clinical manifestations, while the mere anatomic findings are being given a less prominent position than heretofore. Structural pathology is slowly but surely yielding first place to physiologic pathology.

As the physiologic conception of disease becomes more widely recognized, the time-honored, interminable debate about the significance of the terms organic and functional as applied to specific affections will die out; for, as Cowles rightly says, "In general medicine this distinction of organic and functional disease appears to be an expression of the dominance of morphologic conceptions in medical knowledge." All disease is functional; must necessarily be so, because disease is something that occurs in living, functionating beings, and not in dead, functionless tissues. But function is an attribute of matter, and, therefore, function and matter being bound up in unison, the only question at stake is that of the precedence in time and causation of the function and the alteration of the tissues. This is a futile question for debate, it seems to me, and yet it has divided the medical world into two opposing camps, the one holding that all disease in its last analysis is synonymous with change of structure with consequent disturbance of function; while the other equally maintains that all disease results primarily from disturbance of function with consequent alteration of tissue. Heretofore the former view has dominated, and still largely dominates, in medicine; but the latter view is pushing itself at present well to the forefront. It is to be hoped that the upholders of the latter view will not, as too many enthusiasts are doing, advocate it to the absurd extent of entirely ignoring the former. Structure and function are interdependent, just as physiology and anatomy are; but, as physiology is interested only in living anatomy, so function is concerned only with living structures. In a word, as in the study of the normal living man, we follow physiologic lines, so in the study of diseased man we must follow the lines of his diseased functions. Therefore, clinical medicine has to do always and only with functional diseases, using the adjective here in the larger sense applicable to all diseases.

Let structural pathology furnish all the information it can as to the appearances of the tissues during and after the disease process, but in practical scientific medicine it must be remembered that the abnormal physiology, the disturbed functions, and the reasons thereof, are the desired goal of study. This is the physiologic conception of disease, and, while not wholly opposed to the anatomic, on which it, of course, in part rests, it is a higher and more accurate conception than the latter. It recognizes disease as a phenomenon of life and not as a mere postmortem exhibit.

III. PHYSIOLOGIC CONCEPTION OF DISEASE SLOW OF ACCEPTANCE.

That disease is an abnormal physiologic process, and not a mere morphologic change, is not a new idea by any means; and yet there is very little evidence of its frank acceptance by the rank and file of the profession, the teachers, and the writers of medical text-books. Though himself the great exponent of pathologic anatomy, Virchow was ever ready to present as one of his favorite themes "the establishment of pathologic physiology which, to his mind, was the foundation of scientific medicine, and, therefore, of medicine as a whole." The living, functional activity of the tissues, whether those tissues be contemplated as body, organ or cell, is the object of medical research, both in health and in disease. The intimate study of the physical structure of these tissues naturally forms the groundwork whereon to begin the physiologic research, but one who limits his study of disease to the investigation of this mere groundwork rests at the bottom rung of the ladder and may even be led astray in his further deductions. As Claude Bernard long ago well said, "There exists only one science in medicine, and that science is physiology applied to the state of health as well as to the state of disease."

The physiologic method being obviously the one to be adopted in the study of the living, functionating organism, it sounds almost platitudinous in Lepine to say, "It is superannuated to think along anatomic lines nowadays," and in Huchard to insist that "in clinical work hereafter it will be necessary for one to think and act along purely physiologic lines." Robin voiced the same sentiment when he urged first and foremost always the study of the "disease of function."

Though the very definition of pathology is "the totality of the morbid conditions and processes in a disease," there is a remarkable absence of the teaching of these processes both in medical text-books and in medical educational institutions. Normal physiology and structural pathology are presented in great detail; and both special chairs and laboratories are established for their elucidation. Only one school, to my knowledge, teaches today pathologic physiology as a special branch of medicine, and that school, the Johns Hopkins, has had its laboratory open only for the last few months. In all

other schools the student takes up normal physiology as a special part of the curriculum, whereas abnormal physiology must needs be picked up in a fragmentary way from the lectures on general medicine. The study of clinical medicine and surgery is begun with a fairly complete idea of normal structure, normal function and even diseased structure, but with practically no idea of diseased or abnormal function. The student learns everything but that which he finds transcending everything else in importance when he gets into active practice, namely, how diseased human beings continue to live and perform their functions. And when as a practitioner he endeavors to supply this hiatus in his knowledge by a close study of medical literature he will, as Professor Hall[1] says in his recent address, "search the chapters of general pathology in vain for any sections that deal adequately with the problem of the physiology of disease." The only work on general medicine that attempts to correlate frankly physiology and pathology and to apply to clinical medicine the principles of pathologic physiology is Krehl's well-known "Pathologische Physiologie," of which an English translation has been recently made by Dr. Hewlett of the Johns Hopkins University. For neurology Grasset has done the same thing in his "Les Centres Nerveux: Physiopathologie Clinique," published only last year. And in my own work issued over a year ago a similar trend of thought was adopted in the classification and presentation of the diseases of the nervous system. In connection with the mention of literature devoted to the consideration of the physiologic conception of disease, commendation should be made of the papers of Putnam[2] and of Cowles,[3] two of the most logical, scientific and philosophic essays that have appeared in recent years. The work of Dana, Putnam, Prince, Herter, Chittenden, Barker, Cowles and others on this side of the Atlantic, and of Jackson, Mott, Halliburton, Ziehen, Campbell and many others in Europe is strong corroboration of the steady trend of modern thought in advanced scientific circles in the direction of physiologic medicine. As we have seen it is the only true and scientific method for the investigation of disease, we are all the more surprised at the relatively inadequate way in which it is taken up and presented by the teaching bodies and the general profession.

IV. THE PHYSIOLOGIC CONCEPTION OF DISEASE IN NEUROLOGY.

I think I am well within the bounds of truth when I say that the physiologic principle in the interpretation of disease and its symptomatology is more glaringly manifested in neurology than in any other department of medicine. It is largely for this reason that neurology seems so hard and confusing to many practitioners whose training in pathology and whose thinking in diagnosis have been along purely anatomic and morphologic lines. In 1901, using the anatomic conception of the spinal cord by way of illustration, I wrote:[4]

> The spinal cord, as it is usually taught anatomically, is a more or less independent organ made up of certain columns of white matter, and certain central masses of gray. To these columns are attributed particular functions and assigned particular names and boundaries. Arbitrary divisions and subdivisions are laid, as, for instance, between the so-called anterior and lateral root-zones; fissures are described where there are no fissures; and mere disconnected, short, associative tracts are dignified with the name of column. As a result of all this, the cord, in its entirety, assumes, in a hazy way in the mind of the student, the characteristics of an individual, distinct organ, attached somehow at one end to the brain, and giving off and receiving along its sides motor and sensory nerve roots. When the student comes to study minutely the physiology of this organ, he is amazed to find that he has to learn its structure from an entirely different standpoint and that its physiologic dissection seems to nullify many of the arbitrary divisions and arrangements made in it by anatomy. He discovers that it is far from being a distinct organ, separate from and subordinate to the brain, but that both it and the brain, together with the peripheral nerves make up a composite organ whose parts overlap and run into each other in a most marvelous complexity of structure and function. He is surprised to learn that the term column is as applicable to the cellular gray matter as it is to the fibrous white matter, being, in fact, a poor term to be applied to either. He is not a little confused when he observes that the nerves are not given off and received by the cord, but that certain efferent processes are sent forth from its central ganglionic masses to terminate in the muscles, while the sensory processes from certain peripheral cells are merely received into it to arborize around its own cells. A series of ganglia with their appropriate efferent processes, in and about which terminate certain afferent processes from without, constitute the cerebrospinal organ in the truest sense of the word. The peripheral neurons and the central neurons find merely a meeting-place in the ganglionic gray matter surrounding the central canal, including the ventricles of the brain and the central canal of the cord.

The same thought was clearly in the mind of Grasset when he wrote:[5]

> For each function, simple and complex, there corresponds a special nervous apparatus. . . . Each of these apparatuses extends through all of the neuronic levels, continues throughout all planes of section of the nervous system; has its own peripheral neurons, its neurons of relay, and its cortical neurons. Each one has at one and the same time centripetal fibers, centers and centrifugal fibers. The visual apparatus, for instance, comprehends motor nerves that are indispensable for vision, just as the general motor apparatus would be powerless to act without its kinesthetic nerves. And thus vanishes the division of the nervous system into cerebrum, medulla oblongata, spinal cord, which division has nothing but a mere geographical value. Furthermore, there is not even a geographical unity in the nervous system, nor a unity in the direction of the nervous current; the system of neurons, arranged in these various apparatuses possesses unity only in its function, and that is a physiologic unity.

Obvious as it is that the new anatomy of the nervous system is a physiologic anatomy, and consequently that a proper conception of neuropathology rests on a physiologic rather than on a mere anatomic basis, on goes the student and practitioner trying to learn what are the diseases of the brain and their particular symptoms, what of the medulla, of the cerebellum, of the spinal cord, of the peripheral nerves, etc. Is it any wonder that confusion overwhelms him, and in the end he exclaims against the almost insuperable difficulties in the understanding of neurology? His difficulties will continue to grow until he awakens fully to the fact that scientific neurology nowadays follows the guiding strings of physiology rather than those of mere anatomy.

Until physiopathology rather than anatomopathology is made the frank basis of clinical neurology there can be but slight hope of intelligently understanding why a paralysis is sometimes spastic and at other times flaccid; why a deep reflex is in one disease lost and in another

1. "Pathologic Physiology, a Neglected Field," THE JOURNAL A. M. A., Dec. 30, 1905.
2. "Value of the Physiologic Principle in the Study of Neurology," Boston Med. and Surg. Jour., Dec. 5, 1904.
3. "The Problem of Psychiatry in the Functional Psychoses," Am. Med., Feb. 3, 1906.
4. Med. Record, Oct. 5, 1901.
5. "Les Centres Nerveux," 1905.

disease exaggerated; why the electrical reaction of degeneration appears with one form of muscular atrophy and not with another form; why an illusion of one of the special senses is not the same as an hallucination of that same sense; why tactile sensibility can remain intact while the pain sense is completely abolished; why a tumor of one part of the brain presents a very different clinical picture from a tumor of another part of the brain.

Those of us who are teachers of neurology are not entirely without blame, for until we cease confusing our students and readers with two notions of the same thing we must expect them to complain and look askance at our specialty. If we tabulate tabes dorsalis under the head of spinal cord diseases, and then in the opening paragraph of our description declare that it is a disease of the peripheral sensory neurons or apparatus; if we classify acute anterior poliomyelitis, an inflammatory trouble plus certain secondary degenerative changes, with the primary, systemic degenerative troubles; if we present in a section of our book headed diseases of the spinal cord, an elaborate account of cerebrospinal disseminated sclerosis, and then devote three-fourths of the description to head symptoms; if we assert that exaggerated knee-jerks occur in certain spinal as well as in certain intracranial troubles, without furnishing at the same time some physiopathologic explanation; if we do all this and many other inconsistent things, we need not marvel at the impatience of our audience. The fault is with ourselves, for we have been mixing up old anatomic with new physiologic conceptions. For the sake of consistency, if not for anything else, we should discard the one and cling firmly to the other.

As Putnam[2] says:

> We need all the help that anatomy can furnish, but as it is the organism in activity that we eventually seek to understand, it is necessary that the splendid services of anatomy should be supplemented by physiology, and the physician—above all the neurologist—needs to be trained more thoroughly than at present to work and reason in accordance with physiologic conceptions and methods as applied to the problem of disease.

While Cowles,[3] speaking for psychiatry, writes:

> It appears that the turning away from the barrenness of histologic provings is becoming general; the improvements of the clinical method and psychologic experiment are inevitably drawing attention to the closer observation of the individual patient and to the better study of the minor causes of his mental variations. This means a trend towards physiology.

V. STATUS OF THE NEURON DOCTRINE.

In the evolution of knowledge, there are always two processes by which the desired goal is attained. These are parallel processes, equal in dignity and mutually interdependent. The one is inductive and involves the simple observation of phenomena; the other is deductive and concerns itself with the correlation and explanation of the observed phenomena. So-called facts are of little practical use to mankind until they are made available by some plausible reason or law for their existence. Theories, hypotheses, explanations and generalizations are equally futile unless they are based on and are adequately supplemented by a sufficient number of facts. It is infantile to dwell in a world of unexplained facts or phenomena, however innumerable the latter may be. It is mere day-dreaming to pile up theories and hypotheses without submitting to the wholesome restraint imposed by a constant consideration of observed facts or phenomena. The true scientist works for knowledge through both observation and theory.

The practical value of a science is enhanced when individual observations and generalized laws are most nearly balanced in value. When the perturbations of the planets, long known to the astronomers as mere phenomena, were accounted for by the laws of Kepler and of Newton, the science of astronomy became exact and of great practical value. When the colored composition of light was explained on the hypothetical basis of undulations in the ether, the science of optics became something more than an assemblage of curious exhibitions. What has the chemist not done these latter days in discovering and creating strange forms of matter by following the general laws more or less formulated by the atomic theory! Of what interest to any one are the marvelous complexities and anomalies observed in the biologic world until there is some explanation of them suggested in the laws of evolution, embryology and general morphologic progression?

Physiology is the science of life, a pure science. It has its mass of observations and its hypothetical explanations. Some of the latter have become established laws, while many of the former still remain unexplained. In connection with the physiology of the nervous system, the opinion is growing that there is great need of an explanation of the observed phenomena by some fixed law or laws. The neuron doctrine suggests such an explanation. To repeat what I have written elsewhere:

> Of all the generalizations of science, none have been more brilliant, more illuminating, more practical than the neuron doctrine. Like all these great scientific generalizations, as, for instance, the law of gravitation, the atomic theory of chemistry, evolution, the nebular hypothesis and the undulatory theory of light, it is an inference merely, drawn from and propounded to harmonize a great mass of seemingly anomalous and unrelated facts and phenomena. It is not put forth as an infallible truth. It is open to future modification, and, if need be, to entire annihilation, should future discoveries be made that contradict its present teachings.

Up to the present time no discoveries have been made that tend to overthrow the doctrine in its essential features, though as in all progressive knowledge, many observations have been made and are being made that necessitate a readjustment and a restatement of some of its minor conclusions. All due allowances being made for the work and opposition of Bethe, Apathy, Nissl, and others, anyone who carefully follows both sides of the controversy can not fail to see that in the main the neuron doctrine remains unaffected. This is not stated in so many words by Barker[6] in his recent well illustrated review of the whole subject, for he wishes the reader to judge for himself; but his implied conclusion, as well as the conclusion that any unbiased reader of this review must come to, is that the neuron concept need not yet be abandoned.[7]

VI. PHYSIOLOGIC UNIT, THE NEURON.

The essential fact which the neuron concept inculcates is that the nervous apparatus parenchymatously consists of a physiologic unit immensely multiplied and interrelated with other similar units. In this the doctrine is nothing but a general restatement of the cellular doctrine for the nervous system. This is the feature of the doctrine

6. "The Neurons," THE JOURNAL A. M. A., March 31, 1906.

7. During the revision of this article for publication, the paper of Collins and Zabrieskie on the "Neurons and Neurofibrils" appeared in the *Medical Record* (June 16, 1906). It is a very full review of the present teachings anent the neuron and gives a fair exposition of both sides of the debate. Among its conclusions is the statement that "although there seems to be a necessity to modify the neuron theory, nothing has yet been done to cause it to be abandoned."

that still remains unassailed by any discovery that has hitherto been made. As a doctrine, it has overthrown the old notion of the nervous system being made up of two sets of elements, cells and fibers. There is only one element, one unit, and that a physiologic unit. This it has named the neuron. The definition of this neuron is the field whereon is waging the battle of opinions anent the validity of the doctrine. The latter asserts that the cell and its processes (dendrites and axons, formerly called fibers) constitute a solidarity, a single, integral factor, all parts of which are relatively of equal morphologic and physiologic importance. Certain subsidiary deductions made when the theory was first put forth have, as a result of later discoveries, been greatly modified or entirely given up. The notion of an ameboid movement being possessed by the neurons, though never very earnestly upheld, has at last been completely relinquished.

The discovery of neurofibrils that pass through, surround and connect the cellular elements has not only abolished the early teachings anent the contiguity of the neurons as opposed to the continuity of the nervous system, but has given birth to the catenary theory of Bethe wherein the nervous apparatus *in toto* is looked on as a continuous chain of conductors, a circle without beginning or end, like the vascular system. It must be admitted that if these neurofibrils do not convince one entirely of the continuous chain theory, they do demand of the neuron doctrine the adoption of a modfied notion of partial continuity between the neurons. Much has yet to be learned and confirmed, however, even in regard to these fibrils before they may be used as the basis for dogmatizing and causing the complete abolition of older ideas. Indeed, as Barker[6] well says, "in the light of newer studies, the enormous importance attributed by Bethe and Nissl to the Golgi nets seems to have been premature; their views are unsupported by facts." Without stopping to discuss these neurofibrils in more detail, for Barker,[6] Collins and Zabrieskie[7] and others have done this, I would say that they do not overturn the neuron doctrine in its essential features, and moreover, that they are less adequate to found a theory on than are the so-called neurons of the latter theory. Whereas the latter offers some reasonable explanation for a large number of common clinical phenomena, the catenary theory simply adds confusion to what is already steeped in mystery.[8]

Other modifications that have had to be made in the earlier teachings of the neuron doctrine have been in connection with the question of the Wallerian degeneration, the development of the nervous elements, and their autogenous regeneration. These have all been discussed, and the arguments *pro* and *con* been carefully weighed by Grasset.[5]

A summary of the whole matter seems to show that both the neuron doctrine and the catenary theory in its latest form agree in adopting a physiologic unit. The character of that unit in regard to its minute structure appears to be the point whereat the two theories diverge. The neuron theory (Waldeyer) defines the neuron as a cell with its processes. The catenary theory (Durante) declares for a "pluricellular unit," which is compared to a "primitive nervous lobule," Durante objecting to the term neuron on the ground that it is strictly a cytologic and not a physiologic term. As Barker[6] concludes anent this latter point, "should it have been made out that the neuron is pluricellular in its origin, the anatomic unit which Waldeyer called the neuron would still have existed. It would have been an organ then, rather than a single cell."

From the clinical and physiologic standpoint, then, the distinction between the two doctrines is one largely of terms. The neuron doctrine yielding to the view that the physiologic unit is polycellular, and the catenary theory accepting the idea that the nervous apparatus is made up of innumerable functional entities, there is no reason why the established and familiar term neuron should not be kept in use to represent this well recognized physiologic unit, while its minute structure and minor physiologic importance is left for future investigations and positive establishment.

VII. THE NEURON CONCEPT AND CLASSIFICATION OF DISEASES.

In his address, Barker[9] said, while referring to the value of a functional conception of disease:

> As medicine has become more scientific, the mind has ceased to be satisfied with such descriptive classifications as the clinical symptoms and syndromes represent and with "clinical types" set up, and is ever on the alert to replace them by classifications of a developmental or genetic character.

This is especially true of neurology. As I have already intimated, I believe it is one source of the confusion which students and practitioners complain of in connection with neurology as presented in the average textbook. The old classification, based on old anatomic teachings, which so largely prevail are contradicted and nullified by the modern teachings of the physiology of the nervous system.

It was with this thought in mind that Grasset,[5] doubtless, determined to discard entirely the use of the terms cerebrum, cerebellum, medulla oblongata, spinal cord, peripheral nerves, etc., in his presentation of the subject of neurologic diagnosis. Adopting the neuron as the physiologic unit and studying especially the different functional apparatuses in which this physiologic unit is specifically aggregated, he presents the whole subject of neurology (save therapy) under the following physiologic captions: 1, The central nervous apparatus of motility and general sensibility; 2, the central nervous apparatus for orientation and equilibrium; 3, the central nervous apparatus for language; 4, the central nervous apparatus for vision; 5, the central nervous apparatus for hearing, taste and smell; 6, the central nervous apparatus for the circulation, secretion, nutrition, digestion and respiration.

Realizing in like manner the inadequacy of the present anatomic classification of nervous diseases and the fast growing need of their study and presentation along physiologic lines, I presented in my "Diseases of the Nervous Sytem," a work appearing several months before Grasset's, a tentative classification based broadly and frankly on a physiopathologic groundwork. Like Grasset, I adopted the neuron concept as it was in the main then accepted. I first contemplated the nervous system

8. As Collins and Zabrieskie (footnote No. 7.) well argue, "the one thing that is needed by the opponents of the neuron theory is to show the transition of a sensory, centripetal impulse to a motor centrifugal tract without the intermediation of a ganglion cell. If they could do that their claims would be established. Whether they first go in or come out of the cell, whether the elementary trellis formation is originally extra-cellular or intracellular, whether the fibrils are at all interrupted at Ranvier's nodes, or whether there is a free peripheral termination, are all matters of trivial importance compared with this, for then the neuron theory would lose its applicability and usefulness to the problem of physiology and histology."

9. "Methods in Medicine," Boston Med. and Surg. Jour., June, 1905.

as being made up of two distinct sets of tissues; the true, functionating tissues (the neurons) and the mere supporting nutritive tissues (the vascular, connective and neuroglial elements). This distinction, of course, was primarily made for its physiologic bearing. This made a grand division of nervous diseases, so-called, into those primarily neuronic and those primarily non-neuronic or extra-neuronic. In the latter the neurons are usually more or less damaged, of course, but secondarily. Tabes dorsalis, for example, I placed among the neuronic affections; myelitis was regarded as primarily an extra-neuronic trouble, with secondary complication of the neurons. Amaurotic family idiocy (Sach's type) was a neuronic disease; infantile spastic diplegia was primarily a vascular or extra-neuronic trouble. Acute anterior poliomyelitis and intracranial hemorrhage were both extra-neuronic outbursts; the subsequent degenerations respectively in the anterior root fibers and pyramidal tracts were secondary neuronic implications or sequelæ as it were.

The practical value of this functional differentiation of the two sets of diseases will be noted on careful consideration. In the neuronic diseases, degeneration is the dominant pathologic change. This degeneration may be developmental (Gowers' abiotrophy) or acquired. Heredity, with all that it includes, is prominent among its etiologic incidents and second to heredity, with which it usually works in conjunction, is toxemia. In the extraneuronic diseases, inflammation and vascular changes constitute the cardinal pathologic presentation; and for the production of these the leading etiologic factors are toxemia of every sort and traumatism. Symptomatically, the neuronic diseases are strictly neural and well defined along neural lines; they are preëminently and wholly nervous; their manifestations are beautifully and sharply sensory, motor, trophic and all combinations of these; they rest clearly on the physiology and physiologic anatomy of the nervous apparatus.

Symptomatically, the extraneuronic diseases primarily manifest themselves by well-known general signs of vascular disturbance; the febrile picture is always more or less in evidence; these vascular symptoms being generalized and so prominent, the more strictly neural symptoms, depending on the secondary involvement of the neurons, are somewhat mixed, obscure and less well defined than they are in the neuronic diseases. From the prognostic point of view, the neuronic diseases are all but hopeless (possibly because of the dominance of the hereditary, neuropathic factors); only when the damage is very slight and the degenerative process is in its incipiency can recovery be looked for; in most cases a cessation of the degenerative process is the best that can be expected. On the other hand, the extraneuronic diseases are relatively more hopeful; their prognosis is almost the same as that of the same sort of disease occurring in other than the nervous system, and must not be confounded with the more hopeless neuronic prognosis of the secondarily implicated neurons. For instance, the prognosis of tabes dorsalis is not hopeful, as we all know, because the trouble is primarily neuronic; the prognosis of anterior acute poliomyelitis as a vascular disease is excellent, though the outlook for the secondarily damaged neurons of the anterior cornua is bad. The distinction of neuronic from extraneuronic affections has its practical value, if one thinks of it, in the matter of treatment.

Continuing this tentative physiologic classification, I next subdivided the neuronic diseases into the so-called functional and organic, explaining the while that, in my opinion, these terms represent merely differences in degree rather than in kind in the matter of the pathogenesis and pathology of the disease. This I have discussed briefly in an earlier part of this paper. The so-called functional neuronic diseases (diseases merely with undiscoverable histologic changes with our present means of investigation), the conventionally named neuroses and psychoneuroses, were divided into those of the cerebrospinal and sympathetic systems, because these systems as separate aggregations of neurons represented a more or less differentiation of function; while the organic neuronic diseases were classified for a like reason into those of the afferent system, the efferent system, and the combined afferent and efferent systems.

At this point the strictly and integrally neural diseases cease. Resuming, however, the classification of the extraneuronic maladies, and remembering that there are no functional differentiations in the vascular and connective tissue elements of the nervous system, these diseases were grouped under the head of brain, cord and peripheral nerve affections, the terms brain, spinal cord and peripheral nerves being employed merely for their topographical or, to use Grasset's[5] term, geographical, signification. The following schema shows the classification at a glance:

NEURONIC DISEASES (DEGENERATIVE.)

a. The functional neuronic diseases.
   1. Cerebrospinal.
   2. Sympathetic.
b. The organic neuronic diseases.
   1. Of the afferent system.
   2. Of the efferent system.
   3. Of the combined afferent and efferent systems.

NON-NEURONIC OR EXTRANEURONIC DISEASES (INFLAMMATORY, ETC.)

a. Of the spinal cord and its membranes.
b. Of the peripheral nerves.
c. Of the brain and its membranes.

I confess that in completeness of radical change of method, Grasset has far outstripped me in the attempt to present the diseases of the nervous system with a physiologic classification. Perhaps, however, at the present time, when the pathology and the neurologic status of some diseases are still in dispute, a less radical change than that of Grasset may have its advantages.

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DISCUSSION.

DR. HOWELL T. PERSHING, Denver, asked Dr. Mettler if, after all, the reclassification would not be an anatomic one; not according to the old gross anatomy, but according to the finer anatomy of the nervous system.

DR. L. H. METTLER, Chicago, replying to Dr. Pershing's question, said that it is a new anatomy, a physiologic anatomy. Dr. Mettler said that Johns Hopkins, one of the oldest medical schools in the country, only recently opened a laboratory for the teaching of abnormal physiology. All the other schools teach normal physiology, but still neglect abnormal physiology, except what little the student is able to pick up from the clinical department. The anatomy Dr. Mettler spoke of is anatomy combined with modern physiology, and not the old anatomy as usually taught.

Unnecessary Noise.—In all seriousness, however, we would commend to all those who come in contact with the sick that this subject of unnecessary noise be given careful consideration. To the youthful internes of hospitals or residents of sanatoriums we respectfully request that they exercise some of that rare quality known as thoughtfulness, and eschew hobnail boots, the slamming of doors and other manifestations of youthful over-exuberance of spirits.—*Journal of the Outdoor Life.*

HYSTERIA IN CHILDREN.*

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Among the most toilsome efforts expended in the service of neurology have been those dirceted at a finer appreciation and better understanding of that most protean of all disorders, hysteria. As it happens in the adult, it requires no introduction; of its occurrence in the child, I believe enough has not been said.

The preponderance of ardent study has applied to the intellectual and moral side of the young, with the attention especially riveted on an increasingly large number of irritable, unstable, capricious, precocious, eccentric neurotic children, whose minor mental abnormalities have always been a matter of deep concern alike to parents, educators and physicians.

Perhaps the zeal and energy consumed in understanding these, together with backward and degenerate types, has somewhat retarded the interest in hysterical phenomena; be that as it may, writers in general certainly have not given the subject of juvenile hysteria the illuminating presentment it deserves. As a result some few specialists and many more practitioners somewhat hesitatingly acknowledge that hysteria is ever exhibited in child life. I have sought for evidence of agreement as to the occurrence and particularly the prevalence of it in several approved text-books on neurology and pediatrics, but, on the whole, the references have been somewhat disappointing.

Holt[1] introduces the subject as follows: "This (hysteria) is not a disease of childhood, but one which is occasionally seen in early life," adding that it is very rare before the seventh or eighth year, occurring most often in children after the age of 10. Sachs[2] also inveighs against the idea that hysteria is ever a common disease and says: "Hysteria is a rare disease in the adult, still rarer in the child." Taylor[3] devotes a short chapter at the close of his book to functional paralysis and scatters a few references elsewhere about hysteria associated with epileptic, myasthenic and myoclonic states. Gowers,[4] in his earlier edition, supplies the Briquet and Landouzy table, which places 8 per cent. of all hysteria in the first decade of life, and adds that cases met with under the age of 10 generally commence after 6, although symptoms have occasionally been met with at 3, 4 or 5 years. Oppenheim,[5] aside from having often seen hysteria in the years ranging from 4 to 6 and repeatedly from 8 to 10, alludes to hysterical manifestations appearing as early as the age of 2 and 3. Baginsky[6] includes hysteria in his consideration of psychically defective children. Church[7] is in agreement with Oppenheim, stating that the age of puberty and the years of adolescence immediately following, furnish the majority of cases, adding that before 10 it is common, but children may develop it in very marked form even as early as 2 or 3. Koplik,[8] who, in his 1906 edition of children's diseases, is abreast of the best pediatric thought, says: "It is not a true disorder of childhood," and then quotes Steiner, who states that 16 per cent. of all cases of hysteria occur in youth. He arranges the symptoms under two captions: 1. Psychic or nonconvulsive; 2, motor or convulsive. I refrain from quoting French authors, since hysteria to them is neither a respecter of age, sex or previous condition of servitude. Thus it will be seen that some of the modern text-book makers concede a juvenile, even infantile, form of functional disorder akin to that appearing in adult life, but do so with a reserve which begets doubt in the mind of the average reader.

To dissipate misapprehensions of every sort on the subject and show that tender years are not proof against hysteria, to reaffirm its frequent occurrence and emphasize its most characteristic phases is the object of this paper.

ETIOLOGY.

For our first tentative knowledge of hysteria adultorum, we must go back to the Hippocratic view that held hysteria to be a disorder of uterine origin, hence restricted to females. This idea was opposed as early as 1617 by Carolus Lepois, whom Tourette also credits with being the first observer of hysteria as a not rare disease in children. Hoffman, in 1733, and Raulin, in 1759, evidenced in their general writings a clear idea of the subject.

It was reserved for Briquet,[9] in 1859, to correlate facts from his vast material that have given unqualified support from that day to this of the occurrence of juvenile hysteria as a common affection. His apparently extravagant claim that one-fifth of all cases of hysteria are developed before the twelfth year and that about 5 per cent. of the patients are males has found reiteration in the most recent figures by Bruns, who states that the ratios established "are not excessive, but less than the actual truth."

Since Briquet's time, Bourneville, Guinon, Tourette, Ollivier, Richer, Charcot,[10] Bezy and Bibent[11] of the French school, Seeligmuller,[12] Henoch, Jolly, Oppenheim, Strumpell, Thiemich, Binswanger and Bruns[13] of the German school and Putnam,[14] Mills and Taylor of the American writers, contend for the frequency of hysteria in childhood. That the French have hysteria more constantly with them than the Teutons or Anglo-Saxons may be true, but it is equally certain that the latter peoples are not so entirely exempt as might be supposed from the imagined relative absence of emotionalism in their make-up.

That hysteria in children points to a defective system in modern education or is the expression of an effete civilization is, I believe, too presumptuous a statement, since large statistics show the major forms, those with palsies, contractures, passional attitudes, violent motation and convulsive seizures to be recruited from isolated rural districts and not from the great centers of urban activity.

The age limit from 4 to 14 has already been referred to, but hysteria most frequently develops between 6 and puberty. Bruns[13] agrees with Briquet[9] in stating that

* Read at the annual meeting of the Illinois State Medical Society, Springfield, May 16, 1906.

1. "Diseases of Infancy and Childhood," 1896.
2. Sachs: "Nervous Diseases of Children," 1905.
3. Taylor: "Nervous Diseases of Childhood," 1905.
4. Gowers: "Diseases of the Nervous System," 1896.
5. Oppenheim: "Lehrb. d. Nervkh.," 1905.
6. Baginsky: "Lehrb. d. Kinderkh.," 1892.
7. Church: "Nervous and Mental Diseases," 1904.
8. Koplik: "Diseases of Children," 1906.
9. Briquet: "Traité de l'Hysterie," 1859.
10. Charcot: Prog. Med., 1882.
11. "L'Hysterie Infantile et Juvenile Monograph," 1900.
12. Seeligmuller: Deutsch. med. Wochschr., 1881.
13. Bruns: "Die Hysterie im Kindesalter, Monograph," 1906.
14. Putnam: Jour. Ner. and Ment. Dis., 1892, xxvii.

the ratio of juvenile to adult cases of hysteria is 1 to 5, one hysterical child to five hysterical adults. The average sex ratio between children is 2 to 1 in favor of the female, but with approaching puberty the tendency is for female types to increase and male types to decrease. To correct an erroneous impression, the pampered, spoiled child of the idle rich does not, by reason of its educated tastes and esthetic habits, alone fall heir to this affliction. Again, if statistics are to be valued, the poor and uneducated child of ignorant parents is equally susceptible and by some thought to be the more vulnerable of the two.

The monster predisposing agent, the *agent provocateur* (Charcot), to which all authors refer with great reverence is heredity. In a retrospect of one's ancestry, searching the byways as well as the highways, it were well nigh impossible not to come across some one member possessed of a friable or impressionable nervous system. Under Charcot, the French learned to grow fetichistic about heredity as a factor in the production of hysteria; others, again, think that many of the hysterical manifestations can be better explained in other ways. However that may be, the potential force of direct transmission must be admitted without the least reserve.

That hysterical symptoms are frequently engrafted on symptoms of organic disease and long outlast the latter, is, of course, not to be lost sight of. This is especially true of neuralgic and arthritic conditions following trauma. The genuine disability prepares the soil for further exaggeration of pain in an already impressionable child, and in the case of joint injury, for instance, hysterical tenderness, limitation of motion and contractures often supervene long after the original defect has subsided. Instances of this kind are cited later on.

A child's conscious aptitude for imitating the peculiarities, eccentricities and habits of others may, if long exercised, become a subconscious process, and the capacity for morbid degrees of mimicry shown by some children is truly remarkable. That a parent, for instance, may by precept and practice excite a nervous attack in a child is readily understood, but observers have not lost sight of the converse fact that when the neurotic tendency is strongly expressed the child may with equal facility induce a seizure in the parent. A sensitive child is quickly overwhelmed by what it sees, hears and feels and, under the ban of vicious example, weak discipline and an uncontrolled will, it requires but a brief period in which to elaborate a host of morbid impressions. So it is that hysterical parents have hysterical children.

In purely psychic cases of hysteria, isolation operates with excellent effect and works some speedy and wonderful cures. All of the underlying causes do not operate in each case of juvenile hysteria, but in every case we have to do with a psyche that is diseased, a psyche grossly perverted, modified by the influences of emotional or physical distress or both, but disaffected by actual organic disease.

SYMPTOMATOLOGY.

If one waits calmly for all the so-called stigmata and accidents of adult hysteria to be present before venturing the diagnosis, there will be little hope of ever recognizing this disase as it affects the child.

Juvenile hysteria in its objective manifestations is chiefly monosymptomatic. By that I mean that a localized paralysis may be the only physical finding in a case, or possibly one other symptom be associated with it to warrant the diagnosis, in marked contrast to the adult type in which the hysterical syndrome is hardly ever complete without stigmata and accidents in great numbers. A single hysterical symptom, standing out in bolder relief in the child than it would in the adult, should from its very prominence arouse a suspicion as to its functional nature.

The paralyses of hysteria resemble those of organic disease neither in the manner of their distribution nor in the character of their onset or duration. In children monoplegias and paraplegias are frequent, and hemiplegia occurs, but always without involvement of the face. These palsies confined to a single limb usually appear with apoplectiform suddenness, are characterized by flaccidity, normal tendon reflexes, and in long-standing cases by very slight degrees of atrophy from disuse. Seen at short intervals, it is amazing how variable is the extent and degree of paralysis. Indeed, the rapid fluctuations from bad to worse and good to better should suggest the diagnosis. Associated with long-standing paralyses are the well-known contractures of functional type, marked in degree, relaxing only in deep sleep or narcosis and painful to the touch.

A child naturally takes smaller steps in walking than a grown-up person, and is in general more impulsive and less coördinate in all movements. When not hindered by pain, the mere knowledge of partial impairment is not always enough to remove haste, and this gives rise to jerkiness and dangling movements plainly seen with every hurried effort to advance the leg in locomotion. In several cases of monoplegia affecting the lower extremity I have observed a limp paralysis with some downward flexion of the foot, but in walking the scraping of the toes and sickle gait characteristic of organic hemiplegia were lacking. The astasic-abasic syndrome is very common in children. Bruns[13] thinks at least ten times more frequent than in the adult. Case 3 beautifully typified this phenomenon.

Some authors assert that areas of hysterical anesthesia, especially the "glove" and "stocking" varieties, occur with as much frequency as in adults, but my few observations harmonize better with the conclusions of those who think that anesthetic zones are only very rarely met with. The explanation for their absence is not far off. An adult is profoundly concerned about his utterly helpless extremity and gets the idea that if his arm is paralyzed for motion it must be paralyzed for sensation; if he can not move a limb, it naturally follows that he does not feel with it, and this suspicion grows to conviction with the physician's first suggestive inquiry and sensory examination. If at first the patient thought his tactile sense was impaired, he now is sure of it, for verily the physician tested it and, behold, it was absent. I believe with Strumpell that the mental attitude governing the display of sensory phenomena is so largely induced by objective examination and special tests that these stigmata no longer enjoy the clinical importance ascribed to them by earlier writers. The child's mind is not given to complicated mental maneuvers, and in the presence of paralysis it has a simpler interpretation for the feeling left in a paralyzed extremity, namely, that of discomfort. Sensitiveness was precisely the complaint and response I received in almost all instances in which sensory tests could be relied on at all. On the whole, I should say that sensory disturbances are rarely noted in children; that when present they are almost always of the hyperesthetic variety, and that hemi-anesthesias are practically unknown or have been reported only in children of more advanced years.

When an anesthetic zone, suggested or otherwise, is found to be present, it is the same unanatomic, sharply demarcated, rapidly shifting area that we are privileged to observe in adult hysteria.

Hysterical motor agitation in children is expressed in the form of choreic movements, a variety of facial habit spasms, convulsive tics, and epileptoid seizures. The graver forms of hysterical spasms are frequently mistaken for epilepsy and the less pronounced ones are conveniently evaded with a diagnosis of hystero-epilepsy. Even when attacks of major hysteria (as described by Charcot and Richer) occur, as they sometimes, though rarely, do in children, we have a state of retained or semi-retained (never altogether lost) consciousness to deal with. In these cases, too, the widely and irregularly distributed hysterogenic (convulsion inducing) and hysterofrenatoric (convulsion allaying) points respond to the slightest pressure and initiate a seizure unquestionably hysterical in character. The hysterical convulsion is purely a psychic explosion attended with semi-retained consciousness, noisy, screaming delirium, violent motor play in all directions, a peculiar chattering of the teeth, flushed features, resistance of the eyes on attempts at opening them, no auræ, no biting of the tongue, no involuntaries and no personal injuries. The differential points between true epilepsy and hysteria should be carefully considered and, even when there is good cause for reservation and doubt, a so-called compromise diagnosis of hystero-epilepsy should be discouraged.

Choreic movements in hysterical children are not at all infrequent, and as for frank chorea it is by no means rare. Bruns[13] is of the opinion that a large number of recurring choreas are hysterical, that a genuine metarheumatic chorea may have existed in the first instance, but that subsequent attacks were nothing else than hysterical imitations of the first, yielding to suitable treatment.

The polymorphous symptomatology would be rather incomplete without mention of such commonly noted phenomena in child hysteria as aphonia, mutism, stammering and blepharospasm.

CASE REPORTS.

In the past few years it has been my privilege to see 10 picturesque cases of juvenile hysteria, and I present the histories of 5 of these. If I seem prolix, it is because I desire to emphasize and detail the contributing as well as the exciting factors in the neurosis.

CASE 1.—Summary: *Four-year-old boy; family of "neurotics;" insignificant contusion; marked psychic trauma increased by overly sympathetic parents; fleeting monoplegic paralysis; sudden cure.*

History.—In July, 1903, I was called in an emergency to see A. J., aged 4, American born, a boy in a well-to-do family, who in the course of rough play had fallen and hurt his right arm. I had never before rendered the family a service. The mother was much excited, betraying enough sympathy and devotion to win over the affections of a regiment of children. In her anxiety, she had her husband and mother telephoned to about the terrible accident that had befallen the boy, and anticipated for everybody's benefit and within hearing of the child that the doctor would say the arm was broken. Fully 15 minutes were consumed in this preparatory display of nervous distress before the child's jacket was removed and the arm inspected. The history was that of a fall from a very low play-wagon.

Examination.—Patient was slight of build, pale, and very fidgety throughout the examination, whining and crying whenever or wherever he was touched. The forearm showed a soft swelling from contusion at the middle and extensor aspect, which nowhere reached to the joints; the long bones of the forearm could readily be felt and were unhurt in their entire continuity from elbow joint to wrist. The arm was held rigidly flexed and adducted to the body. Every attempt to extend it was attended with screams from pain. Joint involvement could from the nature of the fall and the examination be absolutely excluded. Hot applications of ext. hammamelis were advised for the soreness and swelling, and a cumbersome dressing purposely avoided to disabuse the patient and family of the idea of a grave injury. Two days thereafter the mother displayed such intense feeling in the matter of a permanent bandage for the arm, that of her own accord she swathed it in dressings and talked freely of x-ray and possible fracture.

Further History.—A second examination a few days later convinced me that nothing was wrong except the swelling, which was already one-half subsided; but the child said all the fingers were getting stiff and efforts to half extend the overflexed forearm were met with a snapping back and rigidity. The greatest pain was in the joint. The parents were strongly advised not to interfere, but make the boy eat with his right hand and play about without restraint.

Two days later the boy's arm was again examined by request, and instead of being held rigidly flexed was dangling limp by his side; passive movement at the joint was easily performed without pain, but the fingers and wrist were completely paralyzed.

The child was being fed and dressed and only allowed to play a little out-of-doors. Again the patient was encouraged by me to use the arm and hand vigorously, which advice the mother resented and thought cruel. After some days, I came across the boy in wild play with other children in the street, and had an opportunity to watch his antics for a full quarter hour. He pushed and shoved and was rolled about by the playmates without once showing disability, but the nurse who was in attendance, warned him to be careful of his hand.

Another week and I was requested to pass on the condition, since the child "could not eat," cried with pain in the wrist for hours at every bedtime, and the arm was again stiff and contractured at the elbow. I visited the child purposely at night when it had been asleep for an hour with the arm loosely resting on an extra pillow. The first grasp of the arm almost awakened the boy and caused it to get spastic with immediate contracture at the elbow, but on letting it go, it relaxed again, influenced by the deep sleep. I then made one final effort to correct the attitude of the parents, getting their promise to discipline the child by giving him nothing to eat unless he ate with his right hand. Two trials and sympathy triumphed; the child was fed. The next visit, with now almost a month elapsed since the fall, was paid at my office, where, with a small (so-called family) battery, a succession of electric shocks cured the boy in one sitting, and to my knowledge he has not since even so much as complained of weakness in the hand, and that is now almost three years ago.

CASE 2.—Summary: *Seven-year-old girl; in convalescence from scarlet fever, strange attacks of screaming by night and weak spells in legs by day; anomalous reflexes. Heredity good. Manifestations regarded as hysterical. Cured by hospital isolation.*

History.—M. W., female, aged 7, was brought to the clinic for nervous diseases at Northwestern University Medical School, Sept. 30, 1905, by her mother, who said that six weeks previously the child had come down with scarlet fever and was convalescing nicely until two weeks ago, when, during the night, at about 12 o'clock, she awakened with the most violent pains, apparently only in the legs, which were well drawn up on the abdomen and held in a most cramped position. The mother added that the calf muscles were "lumpy" in spots and the spasm, lasting about 15 minutes, was attended with agonizing screams. Long rubbing relieved them on the first night.

The second night, about the same time (midnight), the child had another leg spasm, screaming at the top of her voice with pain, throwing herself about and horribly distorting her features. This attack, of 20 minutes' duration, frightened the mother badly, who again worked vigorously over the child, rubbing the "lumps" out of her calves and applying hot flannels. For the first week the patient had these spells at nearly the same hour every night, and each time they seemed worse

than before, lasting anywhere from 20 to 30 minutes, and ending, after exhaustion and much petting, in sleep. Four days ago the mother became alarmed at a spell the child had before going to school, in which her legs gave away completely, and the seizure of pain, associated with spasmodic throwing about of all the extremities and fearful screaming lasted 15 minutes. While leading her to school the child fell down so often in every block that the mother practically had to carry her all the way. The mother has had this same experience daily, and on her way to the dispensary to-day was compelled to stop three or four times in every square.

The mother, an extremely sensible, quiet and tactful sort of woman, worn out from her broken night's rest, began to think something must be wrong with the child, and requested an examination and diagnosis. The child's antecedents were entirely free from neuropathic taint so far as the mother knew; the family were all rugged Hollanders and more phlegmatic than mercurial in temperament. The little patient had neither seen nor heard anything of "fits."

Examination.—This revealed a slender child, tall for her years, whose pallor of skin and mucous membranes might be attributed to her illness of scarlet fever. Heart and lungs were negative. The cranial nerves were uninvolved; the faucial reflex was absent; the jaw-jerk and upper extremity reflexes were brisk. The knee-jerks were absent and for a moment this suggested some organic disease, but with the legs hanging, and by aid of reinforcement, they responded promptly and equally. The Achilles reflex was bilaterally present, only, however, with reinforcement; the plantars were present also. The child complained of tingling in the arms and hands and tenderness in the leg muscles, although evidence of any weakness in them was lacking. In the presence of these symptoms, a possible beginning (post-scarlatinal) multiple neuritis was thought of, at any rate, some toxemic process. A positive diagnosis was withheld, the patient was given Basham's mixture for her anemic condition, and asked to return in another week.

At the second visit, two weeks later, the mother declared her experiences had nightly been the same, and she was too exhausted to continue the strain unless something could be done for the child.

Hospital care would have been advised at the first visit but for the possibility of spreading an infection during a delayed desquamative period. Now, however, some nine weeks had elapsed and it was safe to refer her to Wesley Hospital. In the children's ward of the hospital, the blood and urine examinations, repeatedly made, were negative. Nurse and internes were instructed seemingly to disregard the patient, and yet watch carefully for any disturbances, especially at night. The mother and relatives were not allowed to see the child. She remained in bed for two weeks, was up and around one week. During all that time she slept soundly all night and acted normally throughout all the days.

CASE 3.—Summary: *Four-year-old girl of neurotic stock; bad tempered; purely hysterical convulsions; anomalous reflexes; astasia-abasia; cured by isolation and appropriate method of disregard.*

History.—A. L., aged 4, seen July, 1905, is a female of Jewish descent. The parents of the child are in modest circumstances and the father has been in poor health for many years. Domestic cares have made the mother nervous and neurasthenic. The whole line of near relatives are neuropaths, and within the past three years, one uncle and two aunts of the child were committed to the care of state institutions for one or another form of mental derangement.

The child was a breast-fed baby, of extraordinary build, and presented no signs of rickets. Neither the history nor physical findings spoke for syphilis. Trauma was denied. About three months ago she showed a disposition to be quarrelsome in play with neighbor's children, and has grown intensely irritable without apparent cause.

Four weeks ago, while playing with dolls, patient got overheated in the kitchen and had what her mother called a "fit," which she described as follows: The hands were first stretched full length above the head, then thrown wildly about in the air; the body alternately stiffened and relaxed; the legs kicked in every direction until trunk and limbs finally got very rigid and the chest was convexly raised from the floor. She was so frightened at the sight of this that she called to her next-door neighbor for help. She could not say whether the child frothed at the mouth or twitched in any particular part. When the attack was over the child had a crying spell, and was put to bed for the day. The next day she was up and well as if nothing had happened. The next spell followed a reprimand from the mother, and took its beginning in the mother's lap, the child sliding to the floor while screaming, jerking, frothing, breathing heavily, grimacing and making sucking, noisy movements with the mouth. This attack lasted about 10 minutes. Two subsequent attacks were induced by parental opposition and under stress of great emotionalism.

Three days ago, the date of the last attack, in a fit of anger at being refused some cake, the child slid from a high chair in one of these bizarre paroxysms, both limbs being crossed under her in extreme position as she fell. When the attack was over she could not get to her feet, and having bruised her shin was put to bed. I was called to see the child because it could not stand up and the parents feared some paralysis.

Examination.—The child presented an absence of the corneal reflex; "tickle" sense in the ear and nose was absent; the tendon reflexes were everywhere brisk, the child moved its limbs in bed when asked to do so, but a species of negativism was present in all the movements; for instance it would not voluntarily draw up the legs, but if the feet were tightly held at the ankles and drawn downward, strong efforts were made to oppose the extension, and when let go strong reflexion took place; the converse held true in extension maneuvers and I was fully convinced of the motor strength and unimpaired state of coordination, but the child would not stand and could not be stood up in bed. The knees would give way and the flaccidly held legs bend under their own weight.

Treatment.—The child was commanded to walk without success. Isolation was next recommended, but since hospital residence was strenuously disapproved of, it was decided to remove the child to a favorite aunt's house, isolate her there, and leave her for three months. For the first two days the child was ordered practically starved, and then far from her bed was placed a bowl of milk-toast, toward which she quickly walked and hurriedly devoured.

In a week she was entirely cured of her astasia-abasia, and in three weeks returned home, and has, to my knowledge, had no recurrent attack.

The absence of unconsciousness, biting of tongue, involuntary micturition, the prolonged duration of attack, upward of 10 to 15 minutes, the premeditated and emotional onset, the absence of initial personal injury, argue in this case for an hysterical attack; the physical findings reinforce this suspicion and the astasia-abasia completes it beyond peradventure of a doubt.

CASE 4.—Summary: *Thirteen-year-old girl; bad heredity; psycho-neurosis developing with pubescence; mutism and trismus; convulsions; hysterogenic zones, sensory stigmata; altered mentality; no opportunity afforded for treatment.*

History.—C. W., female, aged 13, of Swedish descent, blonde type and very anemic in appearance, was seen at her home Oct. 23, 1905. The patient's grandfather was insane and her father a confessed hard drinker. The girl was the third of five children, all of whom had grown up strong and well except one, an idiotic brother, who died, aged 3. With the advent of menstruation, which set in at the early age of eleven, the patient became gloomy and despondent without apparent cause. The mother states the mental change was complete. Her quiet way of doing things was replaced by cranky and irritable conduct, much weeping, depression and aversion for the society of other children.

It was hoped that taking her out of school for a year would materially improve the girl, and it did, although during this interval she had frequent fainting spells at the dinner-table, which her physician attributed to anemia of the brain, and which were not benefited by protracted dosage with iron. On the occasion of one of these spells, she wakened, but did not utter a word for two days, and had suffocative attacks whenever she drank water, which was oftener than usual. With

efforts at swallowing, the jaws and neck muscles would get very rigid, and water regurgitate through the nose and mouth. For these symptoms, which the family physician thought were very presumptive of lockjaw, she received one hypodermic injection of morphin. This was very painful to her, and after it she slept for ten hours. When she awoke her speech was perfectly restored and the dysphagia entirely disappeared. Directly after this experience the girl, at the age of 13, was sent to live with her married sister, with the idea that the change would do her good. This sister, who was in the fifth month of her pregnancy, developed eclampsia, and our patient unfortunately was compelled to witness the seizures. This circumstance brought the child back home, and I was asked to see her because of a series of "epileptic"(?) attacks which developed for the first time one month after having left the sister.

A week prior to my seeing her, she suddenly, one morning, while in bed, gave a scream, began to twitch, moan, froth, spit, writhe, roll her eyes, gnash her teeth, get rigid all over, and continued this for several hours, with intervals of three or five minutes of rest. At the onset of the attack she passed her urine in bed. Getting all these facts, I ascertained that she had experienced no attack in three days. I said that "seeing was believing," and suggested the impossibility of establishing a diagnosis from these data. Promptly the girl went into a major convulsive seizure of the most grotesque type, frankly hysterical, lasting ten minutes, and terminating only after hard thumb pressure over the supraorbitals.

Examination.—Examination revealed hysterical tenderness in the ovarian region and pressure over the left ovary precipitated an attack, which was easily cut short by hand pressure over the epigastrium. The patient presented tender spines, hysterogenic zones, and circular "stocking" anesthesia almost up to knees, equally on both legs.

Treatment.—This consisted in such isolation as the people could practice in their own home, cold baths, hypodermics of water (because of previous good effect) and no sympathy. The people then left the city and I have lost every trace of them.

CASE 5.—Summary: *Five-year-old boy; severe bronchitis; mild, but continuously annoying cough; shoulder "tic;" later, aphonia; no stigmata; cough cured by induced anorexia; "tic" voluntarily disappeared; aphonia overcome by one application of a strong electric current to the neck.*

History.—On Jan. 10, 1906, I saw I. K., male, aged 5, who had for some weeks been suffering from a hard cold on the chest, perhaps a bronchitis, for which "patent medicines" had been given internally and goose grease rubbings externally. The child was delicate and rachitic. The mother was frail and nervous; the father robust and boasted of "never a sick day." The parents reported their ancestry negative for nervous and other diseases. The boy was an only and much petted child, who had been reared in a small country town, and had always been hale and hearty prior to this, his first winter season in the city. After three weeks of "cold on chest," the parents thought the child should at least stop coughing, but it persisted more or less continuously. Nothing was expectorated, nor did the cough come in paroxysms of a croupy character.

Examination.—The cough proved to be merely a hard, hacking, barking noise, which when associated with a jerky shrug of the shoulders, immediately betrayed its hysterical character. During the examination of the chest, when commanded to be still, the child was quiet for 10 minutes or more at a time. Attracting the child's attention to his ribs and pressing hard in the right fourth intercostal space in front, would precipitate the harsh cough, which it was difficult to allay. Sleep was peaceful and undisturbed during the entire night.

Treatment.—Excluding organic disease on examination of the pharynx and lungs, the child was given a huge dose of syr. of ipecac, and responded with several explosive vomiting spells, and enough exhaustion to check both "cough" and "tic" permanently. The next day, the child could speak only in a whisper, and the parents, thinking exhaustion to be the cause, felt assured that the voice would get stronger in a day or so. They applied hot application and in two days the patient had an almost complete aphonia. On the fourth day, after the first visit, one severely unpleasant shock from the electric current applied over the sides and front of the neck made the child scream, and it talked. Since that time proper hygiene and tonics have prevented return.

DIAGNOSIS.

In offering any remarks relevant to the diagnosis, I am keenly aware of saying nothing that has not been often and better said before, but a few general hints may simplify matters for those who have not given hysterical cases special study.

Confronted with a case of probable hysteria, the postulate of the German savant, Moebius, is a good one to bear in mind, that "such symptoms may be regarded as hysterical, which can be voluntarily produced or which may be simulated." Strong exception has been taken to this generalization by a few who have noted and denoted ocular palsies, pupillary changes, atrophies and edemas as hysterical. Nevertheless, the Moebius dictum at once prohibits any of the following unwilled phenomena from being classed as functional; the lost knee-jerk, the Babinski toe-sign and the reaction of degeneration, choked disc, optic atrophy, unilateral vocal cord paralysis, incontinence of urine and feces, facial paralysis, hemianopia, decubitus, fever, ankle clonus, marked pupillary changes. These signs and symptoms can neither be willed or simulated; they are always the unmistakable signs of organic disease of the nervous system, even though a few may cavil about their rare occurrence in hysteria. The Moebius maxim is discountenanced by some because it is said to be unscientific, but this is only a theoretical objection and as such is dismissed. Since no definition of hysteria has ever gone forth unchallenged or has proven wholly adequate, it is gratifying to have as a guide some rule which will enable us to assert in a given case:—This is a hysterical manifestation, and this is not.

Especially important is it in cases of organic disease plus something else to be able to say so much is organic, so much more must be functional. The greatest difficulty lies not so much in mistaking organic disease for hysteria, and *vice versa,* as in failing to appreciate that organic disease may be and frequently is complicated by hysteria. The liability to error in this regard applies in instances of juvenile as well as adult disease, and yet I venture to say the average physician seldom, if ever, thinks of hysteria in examining the child.

First to attract the physician should be the child's temperament. The *ego* ever asserts itself, and precocity, irritability, sadness, gladness, as well as a host of petty conceits, emotions and foibles, merit close and respectful attention. Since the hysterical child (and, for that matter, the parent also) is very apt to exaggerate every detail of its trouble and the condition giving rise thereto, it is well to note the disproportion between cause and effect in arriving at the diagnosis. A slight fall produces paralysis, a tap on the ear deafness, mutism, slight fright aggravates to profound choreic attacks. Slight cause, then, and grave consequence should arouse immediately a suspicion of hysteria.

The capacity of the young for autoimitation is great beyond measure, and untiring effort should be made to get at all the fads and fancies of the child. Febrile diseases conduce to notions of weakness and astasia-abasia results; pharyngeal disturbances subsequently give rise to aphonia; mild rheumatism eventuates in hysterical joint pains or perhaps contracture; cold air striking the eyes develops blepharospasm.

It is not always desirable to jump at conclusions, and

the above-named diseases need not have these stated terminations. There is no reason why a febrile disease with the patient's inability to stand in convalescence must be astasia-abasia. In fact, it much sooner could be poliomyelitis or multiple neuritis, but here again the criteria of organic disease, such as lost knee-jerks, etc., should at once dispel doubt. Every rheumatoid condition that ends in stiff joints need not be hysterical, because true ankylosis is the much more common and near explanation. Whenever rheumatic chorea recurs it is not as an hysterical imitation, but more often as a genuine second attack of chorea. In all these conditions, then, in which doubtful symptoms play a subtle part, the physician should always think of hysteria as a factor ever near enough to be probable, never so remote as to be impossible.

A consideration of such complicating states as neurasthenia and hypochondriasis would take me far beyond the reasonable limit of this paper.

Just a word in reference to the prognosis, which in children is infinitely better than adults. The very young fare even better than the older children in regard to cure, this being no doubt due to their greater psychic susceptibility to favorable suggestion. The younger the mind the more readily influenced and the easier the cure. Bruns had among his uncured cases only one boy as young as 7, all others ranged from 12 to 15.

TREATMENT.

Strumpell has said that in hysteria we meet with marvelous cures or no cures at all, and surely this will apply to many of the juvenile forms. A fundamental law which should never be lost sight of in treating hysteria is this: All hysterical symptoms are psychic, and the means of cure can only be psychic, that is acting on and through the child's mind.

An early and complete cure depends greatly on an early and positive diagnosis. Prompt suggestion to a child sufficiently old to appreciate it should prove most effective, for the reason that the hysterical habit, if we may so call it, has not had time to grow to morbid proportions.

Just as hysterical symptoms are ushered in with slight provocation, so they may be made to disappear with slight but appropriate treatment. As soon as the nature of the ailment stands revealed to the physician the parents must be made to understand the crux of the situation and be entirely governed by it. They must be told that a dispassionate interest, or, better, no interest at all, is the most wholesome thing for the child. Moral suasion is desirable, especially in cases with purely psychic manifestations, and, together with a firm yet gentle order of discipline, initiated early, will result in great and lasting good.

When one is denied the intelligent and obedient cooperation of parents, and this is only too often the case, isolations becomes an imperative measure. Isolation to be complete and effective means no visitors, no letters, no messages; in short, no reminders of the past. For proof of its efficacy, we are chiefly indebted to Charcot. With no intent to deprecate the talent and skill of the trusted family physician, let it be said that he is not the best nor, as a rule, the last adviser in hysterical cases. This disease is not a grateful one for the family physician to treat. Strange surroundings, strange people and the strangest physician will exert the greatest good and effect the quickest cure.

According to Bruns,[13] the etiquette to be observed toward a case of isolation should depend entirely on the nature of the case. He has had an extensive experience with two methods called "Die Uberrumpelungs methode" (method of surprise) and "Die Zweckbewusste Vernachlässigung" (method of disregard).

The principle involved in the "method of surprise" is at once simple and logical. To emancipate the child from a deep-rooted obsession and do it quickly and completely (in one trial, if possible) is the purpose of the method. Give such children a chance to reflect and deliberate, and it means almost certain defeat for the cure.

A case of hysterical contracture treated in this manner would perhaps call for the exercise of moderate physical force. Assuming the knee joint to be the seat of trouble, use enough strength to overcome the rigidity and spasm and demand of the patient his immediate use of the limb, compelling him to stand or walk. When the astasic-abasic syndrome is present, slap the soles of their feet and insist that the child walk. Failing in this, it has proven curative to place such a patient in a bath tub, suddenly turn on the cold spray and see him scamper off. Intractable cases are reported in which recourse was had to suspension of the child, letting it drop to the hard floor where, from fright and surprise, it would stand glued to the spot. This is the psychologic moment in which to take advantage of the child's dilemma and surprise it with the words, after the manner of Bruns, who said, "See, now, you stand nicely and because you can stand you will be able to walk." If my starvation treatment in Case 3 had been a failure, I should have felt justified in trying this "suspension" maneuver.

Two rather weak objections have, I think, been raised against the rationale of this method freely used by Bruns. Some believe the surprise savors of just enough brutality to induce fright and fear to a morbid degree; that a fright neurosis may thus be superimposed on an already florid hysteria. Bruns and others contend that their experience is contrary to this deduction and think the objection not well sustained. Another group of conservatives say that the symptom is cured, but not the hysteria, to which Bruns aptly replies that the quick extermination of the initial symptom only too often annihilates the disease.

What of the "method of disregard" and the cases in which it applies? Given a child in whom hysterical convulsive seizures or choreiform movements have prevailed for some time, the plan is to have assistants, attendants and especially the physician in charge observe all that goes on carefully at a distance, but to seem utterly indifferent toward all symptoms. The patient reflects that no notice is taken because his or her trouble is too insignificant and it fades away to nothingness from the apparent contempt in which it is held.

In conjunction with isolation and these clever mental devices, all methods of avail in adult functional diseases are of use here. I refer to diet, massage, electricity, the lukewarm bath and cold spinal douche or the cold drip sheet. Hydrotherapy and electrotherapy is in the main extremely unpleasant and in part painful, hence successful. Hypnotism has met with growing disfavor, I believe, and is by many regarded as dangerous to children, if for no other reason than its being a form of induced hysteria. At the nervous clinic of the Northwestern University Medical School, hypnotism has been resorted to with success in a few very well-selected cases of habit spasm. My experience to date does not permit of convictions for or against this mode of treatment.

After a cure in isolation has been effected, children

should not be returned to their old surroundings too soon. They should be given plenty of time in which to forget all the circumstances attending their former disabilities.

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THE TREATMENT OF SIMPLE CHRONIC GLAUCOMA BY MIOTICS.*

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It is the object of this paper to extol the action of miotics in the treatment of simple chronic or non-inflammatory glaucoma, to call attention to the very satisfactory results which attend the use of these drugs in this class of cases, and to urge their more intelligent and persistent administration; for while eserin and pilocarpin have been employed by ophthalmologists for 25 years or more for their miotic action in glaucoma, they have always been regarded as of secondary value to some form of operative procedure, being used either as adjuvants to iridectomy, both before and after operation, for the purpose of decreasing intraocular tension, or as substitutes for operation in advanced cases where iridectomy is contraindicated.

By most authorities operation has been and is still considered to be the only cure for glaucoma, and while the results of operation are known to be less favorable in simple chronic glaucoma than those obtained in other forms of this disease, yet it is almost universally conceded that even in this type iridectomy gives a better chance for retaining vision than any other form of treatment. I use the term "universally conceded," for I believe that the profession generally has adopted the views of such investigators as Nettleship, Bull, Priestley Smith, Knapp, Collins and Gruening, all of whom recommend early operation in the simple chronic as well as the congestive forms of glaucoma.

Although this advice has been accepted by the majority, it is probable that many hesitate to follow the counsel of these distinguished observers in all instances and prefer to treat many of their cases of simple chronic glaucoma in a less radical manner. When the average ophthalmologist considers the very slow progress of the disease and weighs the chances which iridectomy gives for retaining vision with the positive disadvantages which so frequently accompany the operation, and when he considers the liability of error in confusing glaucoma with optic atrophy, with excavation, and the needless risk of blindness to which patients with this latter disease would be subjected by iridectomy, it is not remarkable that the day of operation is often postponed and that recourse is had to measures which, though they may be regarded as being of less value, are never harmful.

Is there positive evidence, however, that miotics are of less value than iridectomy in the treatment of chronic glaucoma? Have statistics ever been compiled of groups of cases, the one treated by miotics and the other by operation, which prove this assertion and indicate the superiority of iridectomy over these drugs? So far as I am aware, no statistical study of any large series of cases of chronic glaucoma treated with miotics has ever been made, with the exception of that compiled by Dr. William Zentmayer and myself in 1895. At that time the histories of 167 cases of chronic glaucoma were collected from the services of the late Dr. William F. Norris and Dr. C. A. Oliver at the Wills Eye Hospital, and from these records deductions were drawn which were thought to be fairly conclusive regarding many phases of the disease, including the results of different methods of treatment. Many of these cases had been observed over a very protracted period, and while the miotics which were employed were doubtless but indifferently administered in many instances, and carelessly applied, so that the full advantage which might have been gained from this form of treatment was not obtained in any of the cases, nevertheless an opportunity was afforded of comparing the prolonged action of these drugs with the results of iridectomy, which no other series of observations gives. For the conclusions of Nettleship and those of the other authorities already referred to were based merely on the results of iridectomy, and are of value only as they indicate the manner in which operative procedure influences the progress of glaucoma, and do not present any basis of comparison with cases treated by miotics.

As a result of our studies Dr. Zentmayer and I concluded that "the effect of the administration of eserin and of the performance of iridectomy in checking the course of the disease is proportionately the same in the treatment of simple chronic glaucoma. As operative procedures are always to be deprecated when other means are equally valuable, eserin should be employed in all cases of the disease. If at the end of a month the extent of the field has diminished, iridectomy should be resorted to, as there will be nothing further to expect from the action of the drug. If at the end of that time, however, an improvement is noted, as evidenced by a study of the field, the drug should be continued, as there is reason to expect that a beneficial action will be exerted for ten months on the extent of the field and fifteen months on the visual acuity. After iridectomy is performed there is ground to believe that the course of the disease will be checked for a period of eighteen months in 50 per cent. of the cases.

"Eserin is powerless in 20 per cent., iridectomy in 10 per cent. of the cases. So that 10 per cent. of all cases of simple glaucoma will not be benefited despite all therapeutic measures that may be employed. Both iridectomy and eserin exert a greater influence over central vision than they do on the extent of the visual field. This is seen in the greater percentage of cases in which vision was improved, as well as in the length of time in which it remained conserved.

"The intraocular tension was more benefited by both methods of treatment than any of the other symptoms, for eserin lessened its degree in all but 20 per cent. and iridectomy in all but 10 per cent. of the cases."[1]

In estimating the value of these conclusions it should be borne in mind that they were drawn from a study of dispensary patients and that many of these were under treatment at a time when the manner of administering miotics to the best advantage was not thoroughly understood. From observations which I have made on a very considerable number of cases, both in private and dispensary service, since the publication of the report, ten years ago, I am convinced that were it possible to compare an equal number of cases which had been subjected to the action of miotics properly administered over a similar period, the comparative merits of miotics and iridectomy would be shown to be far greater in favor of the former. Unfortunately, I am not in a position to make such a study, or to state in exact terms what such ratio of comparison would be, for I have not as yet at

* Read in the Section on Ophthalmology of the American Medical Association at the Fifty-seventh Annual Session, 1906.

1. Wills Eye Hospital reports, vol. I. No. 1.

my command a sufficiently large number of cases which have been followed over a long enough term of years. The difficulty of collecting a large number of cases of chronic simple glaucoma is very great. The disease is comparatively uncommon, and since as a rule it affects those who are advanced in years, death often ensues before the observation can be extended over many years, even when the subjects of the disease remain constant in their attendance on one surgeon. Though lacking statistical evidence to support them, I venture to express my convictions at this time, for I believe that recent utterances by ophthalmologists of note have tended to discourage the use of miotics, so that many who are beginning their ophthalmologic career and others who have but little opportunity for clinical observation have come to regard them as altogether valueless. When no less an authority than Berry asserts that "altogether I believe miotics to be practically useless in chronic glaucoma," and such a careful observer as Cheyney states that in chronic glaucoma "loss of sight without operation is, of course, inevitable," it seems time if one has been assured of the value of miotics to state his convictions and to give whatever testimony he can in their favor.

To elucidate the subject, I consider the subject under the following heads: 1. Beginning cases. 2. Advanced cases. 3. Pronounced glaucoma in one eye, the other being unaffected, or with only a glaucomatous tendency.

I. BEGINNING CASES.

I designate as beginning cases those which have possessed the tendency to glaucoma for a number of months or years and are now manifesting some positive signs of the disease, the tension being, perhaps, more or less elevated, the cupping demonstrable, or some restriction or scotoma having appeared in the visual field.

It is at this stage that the authorities and the books say operate, for they contend that the best results follow operations which are done at this time, asserting that the longer operation is delayed after the diagnosis of chronic glaucoma is once confirmed the less favorable will be the results. They acknowledge that the operation will not control the glacomatous process in all cases and that in some it will accelerate the course of the disease. They do not ignore that even in the most favorable cases there will be certain optical disadvantages resulting from the iridectomy, such as astigmatism and aberration, that the transparency of the lens will suffer in not a small proportion of cases, and that some eyes will be lost from infection. Despite all this, the advocates of iridectomy say operate, for they claim that there is no other alternative, that there is no other treatment, that eserin can not be relied on, that it can not control the disease and that blindness is inevitable.

These are the expressed views of some of the ablest ophthalmologists in the world, and they no doubt express their convictions, but do these surgeons or does any member of this section strenuously and conscientiously follow this advice? Is iridectomy insisted on and urged in every case of chronic glaucoma when once the diagnosis is confirmed? I am convinced that it is not, and that, though operation is advised in many cases, it is done in such a half-hearted manner and the prognosis is guarded with such an unfavorable outlook that the patient would be rash indeed who would decide to submit his eye to it. Under such circumstances the operation is frequently refused, and the ophthalmologist, with the conviction that he has done his duty and has put his conscience at rest by the advice which he has given, is now ready to do the next best thing and orders miotics. Expecting nothing from these drugs, he employs them but indifferently and without method, and as a consequence observes the gradual deterioration of sight. Another surgeon, though equally pessimistic, but more conscientious, employs eserin and pilocarpin more persistently and methodically, and is surprised at the long maintenance of vision. He then begins to question his diagnosis and consider if, after all, the case is not one of optic atrophy with excavation, and not a true glaucoma, though the increasing hardness of the eye serves to convince him more and more that there has been no error and that the case is surely one of glaucoma. I believe that there is scarcely one who has not had this experience and who has not had the conviction forced on him that after all perhaps it was just as well that such patients refused operation.

But it will be said, Who can tell that any given case will progress so favorably? Such experiences are exceptional, and the majority so treated will, after a few months, develop subacute symptoms at least, and loss of sight will be precipitated. It has been my experience that if the disease is of a pure chronic type in the beginning, in the great majority of cases it will remain so to the end, provided miotics are continuously employed. On the other hand, I have observed that if there are any congestive symptoms in the initial stages or shortly thereafter, miotics are powerless to check the disease and early operation is indicated. From a therapeutic standpoint, at least, I would insist, therefore, on the necessity of a separation of all cases of glaucoma into two types, the one congestive, which, despite the use of miotics, presents symptoms of irritation and inflammation in even the earliest stages, and in which early iridectomy is indicated, and the other the non-congestive or chronic, which may continue for many years practically stationary under the employment of miotics.

I have had under my private care at least four cases for twelve years, and for ten years twice that number, and others for lesser periods, on whom iridectomy was not performed, who still retain full vision, though somewhat restricted fields, and it is probable from the progress of the disease that the deterioration in vision will not be much more pronounced at the end of another ten years. As an example of this type I cite the following history:

History.—Woman, aged 62, consulted me first in June, 1897, for gradually failing vision. The eyes had never been inflamed or painful, and the glasses which she had worn both for near and far, had always given satisfaction until recently. The patient was strong and healthy, though gouty, but for several years previous to consultation had been under a severe mental strain. She had always been a sufferer from nasal catarrh and had not the sense of smell for several years.

Examination.—Examination showed the eyes to be quiet, the cornea being clear and the conjunctiva healthy. The anterior chamber of both eyes was shallow, the pupils were 2.5 mm. in size, reacting well to light and accommodation stimuli. Both optic nerves were hyperemic, of a dirty dull red gray tint, and their excavations extended temporally to a broad scleral ring. Arterial pulsation was absent, but the veins pulsated on the disc. The sclera in both eyes felt rigid, but tension was not apparently increased.

With + S. 1.75 D. with + C. 0.50 D. ax. 30° O. D. V. equaled 5/5.
With + S. 1.25 D. with + C. 0.75 D. av. 60° O. S. V. equaled 5/5.

The field of vision in both eyes was normal both for form and color, and there were no scotomata.

Treatment.—Eserin gr. .1 was at once prescribed and the strength gradually increased, as the iris and ciliary muscles grew tolerant of its action. The proper correcting lenses were also selected, and careful instructions given regarding

the restricted use of the eyes at near work. Alteratives and tonics were prescribed and the regimen of the patient's life carefully outlined. This plan of treatment has been carefully and conscientiously followed for eight years, the patient submitting herself every two or three months for observation and any necessary change of treatment.

Results.—Central vision still remains normal, though the visual fields have suffered a slight restriction nasally for both form and color. There are no scotomata, either by the ordinary perimeter tests or by the method of Bjerrum. Tension, too, has become perceptibly increased in both eyes and the excavations on the head of the nerves are more distinctly glaucomatous and the nerves are paler. The refraction has changed, the last test, 428.06, indicating that it required + S. 2 D. ⌒ + C. 0.75 D. ax. 120° to bring the vision to normal in the right eye and + S. 2 D. ⌒ + C. 0.12 D. ax 80° to bring the vision to normal in the left eye. The cornea has continued clear.

The eserin has been well tolerated, and having always been prepared with care and in fresh solution, and boracic-acid washes used persistently in conjunction with it, all irritation of the conjunctiva has been avoided. The salicylate of eserin is now being employed in a solution of gr. ii to the ounce.

It is true that the disease has progressed in this case despite the constant use of miotics and diligent care directed to every source which could influence the ocular condition, but the progress has been so slow that in all fairness it may be claimed that the disease has been at least controlled. All here can doubtless quote similar experiences, and in such instances has there been a regret in the minds of any that iridectomy was not resorted to? Before closing this paragraph, however, it should be made clear that if the disease at any time assumes an acute or subacute type iridectomy should at once be performed, and furthermore that if it is impossible to keep the patient constantly under observation, or if miotics can not be persistently and continuously employed operation should be resorted to also.

II. ADVANCED CASES.

Under this class is considered the not uncommon type where vision in one or both eyes has been seriously compromised by the marked restriction of the visual field, either peripherally by cutting, or centrally by scotoma. All advocates of iridectomy caution about the danger of operating under such circumstances, as it has been a common experience that total blindness has not rarely followed surgical interference. Cases of this type have usually been regarded as hopeless, and blindness, within a few months at best, has been considered to be inevitable. That miotics may be of great service, even in this type, and may accomplish truly wonderful results, is attested by the following case, which I have had under continuous observation since April, 1893:

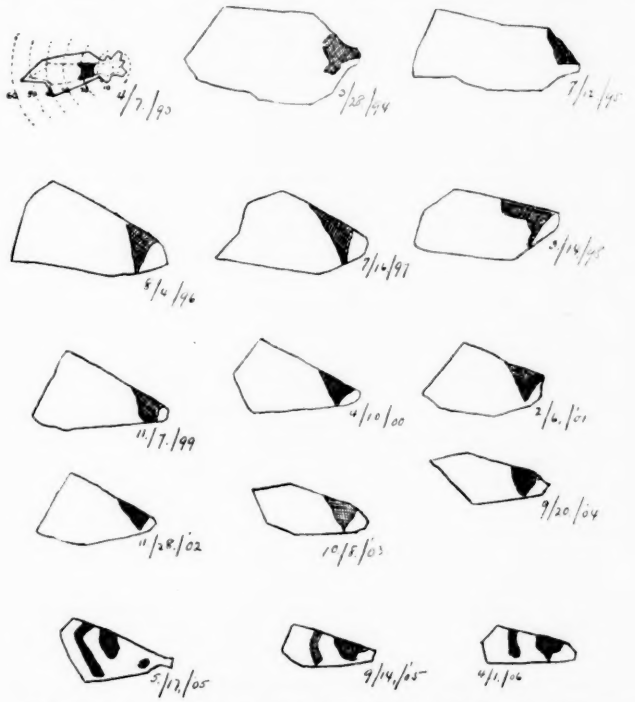
History.—Patient, a man aged 48, was practically blind in the right eye, while the vision in the left was reduced to but a segment of the visual field. The cause of the failure in vision was ascertained to be chronic simple glaucoma, which had followed an attack of grip three years previously.

Examination.—Both eyes were hard, there being no difficulty in estimating the degree of the hardness in both eyes as at least + 2. The anterior chambers were very shallow, the scleral vessels were dilated and engorged and the nerves were deeply excavated. The general condition was somewhat impoverished, digestion was poor and the nervous force of the individual negative. Nasal catarrh was complained of, and there were repated attacks of rhinitis with sinus involvement; the conjunctiva, however, was clear. Vision in the right eye equaled the perception of hand movements in the temporal field; in the left eye central vision was normal, but as shown in the accompanying diagram, the field of vision was much restricted.

Treatment.—Iridectomy being apparently out of the question, on account of the marked limitation of the field, treatment with miotics was inaugurated, though it was felt that but two or three months would suffice to obliterate the small portion of the visual field which remained.

It should be stated in this connection that until this time, although the patient had been under continuous medical care, eserin had never been prescribed, but after the operation was refused, his treatment had consisted in tonics, boric-acid washes and a change of glasses. Under this plan of treatment, the loss in sight had been very rapid and the patient had estimated that should the left eye deteriorate as rapidly as it had during the few weeks before he came to me for advice, blindness would ensue in a month or six weeks.

The salicylate of eserin was accordingly prescribed, in a gr. ss to the ounce dose, conjunctival irritation being guarded against by the treatment which will be described later. Tonics were continued. Attention was directed to the nasal condition. Tobacco and alcohol were stopped, the use of the eyes at near work prohibited, and every effort was made to ameliorate the condition of the general health, and to gain a maximum effect from the miotics. In a few weeks, the eserin was increased to gr. i to the ounce, and a similar increase



The fields of vision in the left eye of a case of chronic glaucoma, showing gradual peripheral restriction and the extension of scotoma.

was made each month until in four months a gr. iv to the ounce solution of the drug was being employed.

Results.—The arrest of the glaucomatous process under this plan of treatment was most remarkable, for, as may be seen in Figure 1, the field became less restricted for a time and central vision remained normal. At the end of six months nitrate of pilocarpin in twice the strength was substituted for the eserin, and during the past thirteen years there has never been a day that either eserin or pilocarpin has not been instilled three or four times daily. Slight conjunctival irritation has arisen at times during this interval, but has always readily yielded to treatment. Until three months ago there was full central visual acuity, though as a study of Figure 1 will show, as the years went by the field of vision became more and more contracted and the paracentral scotoma has grown steadily larger. Three months ago, after a rather prolonged attack of dysentery, there were several recurring attacks of blindness in the left eye, which persisted for five to ten minutes. These were apparently caused by a temporary interruption in the retinal blood supply, and though they

were controlled by strychnia injections into the temple, and nitroglycerin internally, central vision has not arisen to more than 5/7 ½, and the field of vision has remained still more contracted. To-day, thirteen years after the patient came under my observation, vision is 5/7 ½, and the field is as indicated by the lowest chart in Figure 1.

That this truly remarkable result has been achieved by the use of the miotics I believe there can be no doubt. The very great increase in intraocular tension, the shallow chamber and the deep excavation render the diagnosis of glaucoma incontrovertible, while the rapid prevention of the loss in vision in both eyes which was occurring prior to the administration of the eserin indicates the power of this remedy in chronic glaucoma.

III. PRONOUNCED GLAUCOMA IN ONE EYE, THE OTHER BEING UNAFFECTED, OR WITH ONLY A GLAUCOMATOUS TENDENCY.

Glaucoma is essentially a binocular disease, though a very long period may elapse before both eyes are affected. It not infrequently happens, therefore, that the ophthalmologist is called on to treat one eye in an advanced stage of glaucoma, while its fellow is either normal or presents changes which indicate in a general way merely a glaucomatous tendency. Experience has shown that when iridectomy is performed on the most affected eye, in glaucomas of a congestive type, that a glaucomatous outbreak is frequently precipitated in the other eye. On this account authorities advise the performance of iridectomy on the fellow eye as soon as the wound in the operated eye has healed, and believe that this procedure should be preferred even in cases of chronic glaucoma, where there are indications that if it is not already the seat of glaucoma it is liable to become so.

While my experience leads me to agree heartily with this advice in the treatment of all forms of congestive glaucoma, I do not believe that the same ruling should be made applicable to cases of chronic glaucoma, for I have never seen an acute attack precipitated in the fellow eye by an iridectomy on an eye which was the seat of a non-congestive type of glaucoma. In the cases of chronic simple glaucoma which are occasionally met with where a glaucoma of a congestive type, despite the continuous use of eserin, has developed from a chronic simple glaucoma, pure and simple, iridectomy is, of course, indicated and should be performed, but even under such conditions I have never seen an outbreak follow in the fellow eye when it had been properly guarded by miotics. It goes without saying, almost, that in event of operation in this class of cases the maximum effect of a miotic should be obtained some time before the operation, and that the administration of the drug should be continued in the fellow eye, even if it manifest no symptoms of glaucoma, as long as the patient lives.

The following history illustrates the progress of cases of this type:

History.—Miss H., aged 64, consulted me Nov. 22, 1904. Vision in the left eye had been poor for five years, but the deterioration had been much more marked the six months previous to consultation. There was a history of recurrent head pain of several years' standing, but unassociated with attacks of dimness of vision. The general health had always been good.

Examination.—Examination showed the right eye to be normal, but the left eye was found to be the seat of a subacute glaucoma, the nerve being atrophic with a deep glaucomatous excavation. Tension equalled + 1. The field in the right eye was normal, but was greatly diminished in extent in the left. With + S. 0.50 D. ⌒ + C. 0.50 D. ax. 170°, vision in the right eye was brought to normal; in the left, with + S. 0.50 D. ⌒ — C. 2 D. ax. 30°, it equalled but 5/35.

Treatment.—A solution of eserin gr. .125 to the ounce was prescribed, this strength being rapidly increased until the pupil was brought to almost pin-point contraction. Despite this treatment, however, the field still further deteriorated and vision sank to 3/60. An iridectomy was accordingly performed on the left eye, the right being kept under the full influence of eserin, both before and after operation.

Results.—The progress of the case since the iridectomy was performed has been favorable, vision in the operated eye remaining about the same (2/60), while that in the right eye is still normal. At this time, two and one-half years after the operation, the right eye still remains free from any pronounced signs of glaucoma, no pathologic excavation having appeared and tension being apparently normal. The anterior chamber, however, is somewhat shallow. Eserin has been persisted in continuously and the strength of the drug gradually increased, so that two drops of a gr. i. to the ounce solution are being employed in the right eye at 8 a. m. and 10 p. m., and two drops of a gr. ss to the ounce solution at noon and 6 p. m.

The explanation of the favorable action of miotics in chronic glaucoma resides not only in their power to enlarge the angle of the anterior chamber by the thinning of the iris consequent on the contraction of the pupil, but also, as Wahlfors has suggested, in their action on the choroidal circulation, for when the ciliary muscle is stimulated the choroid is likewise influenced through the contraction of its tensor, and the muscular network of the membrane set in action, the pressure on the sclera relaxed, the mouths of the venæ vorticosæ opened, the amount of lymph within the eye lessened and tension made to fall.

Now chronic glaucoma is essentially, in the early stages at least, a disease of the posterior segment of the eye; its first symptoms are observable in the choroid and about the head of the nerve, and a long period may elapse before the anterior segment becomes appreciably affected. By reason of the double action just referred to, miotics are, therefore, peculiarly valuable in chronic glaucoma, while iridectomy, affecting, as it does, the lymph channels of the anterior segment of the eye alone, is comparatively useless. In acute glaucoma, on the other hand, the reverse is true, for in this type of cases the congestion of the anterior segment of the eyeball is present from the first, and iridectomy, by relieving this and by opening a permanent passage for the escape of lymph, is much to be preferred to miotics, which accomplish this but imperfectly and transiently.

In order to gain the full benefit from miotics in the treatment of glaucoma, it is necessary that they should be properly administered. It should be kept constantly in mind that glaucoma is a steadily progressing process, and that as the eyes, after a time, become habituated to the use of miotics their strength should be gradually increased. It must be remembered, also, that the effects of eserin and pilocarpin persist for two or three hours only, so that the dose should be repeated at the end of this period if their action over the pupil is to be constantly maintained. Finally, the dosage and the irritation occasioned by miotics should be taken into account.

Undoubtedly the objections to the use of miotics when they were first introduced, and which still remain in some quarters, were dependent on the employment of too strong solutions. When used in this way, cramp of the ciliary muscle, with resultant headache and other reflex symptoms, is often so violent that patients can not be induced to continue these remedies, while the occasional occurrence of hemorrhages into the anterior chamber and retina, which have been noted by some observers, has deterred many ophthalmologists from employing them.

It has only been within comparatively recent years that the profession has understood the art of commencing with small doses and gradually increasing them until the desired effect is attained, and then maintaining the action by still further, but less frequent, increase in the strength of the solution employed. As was originally suggested by Sir William Bowman, the initial dose of eserin should be weak. An excellent initial dose is gr. .1 to the ounce, the strength being gradually increased, so that at the end of a year the patient should be using gr. i to the ounce, at the end of the second year gr. ii and at the end of the third year gr. iii to the ounce solution. I have never found a stronger dose than this necessary, this strength sufficing to maintain the pupils at the desired point of almost pin-point contraction. Pilocarpin should be employed in twice the strength of eserin and is increased in solutions of equal proportions.

Wicherkiewicz has recently lauded a solution of eserin, pilocarpin and cocain, in which he claims that the pilocarpin and eserin balance the mydriatic action of the cocain, while the miotics maintain their power over the tension. The formula he employs is as follows:

Physostigminæ sulphatis.....gr. 1/7	01
Pilocarpinæ hydrochloridis.....gr. iii	2
Cocainæ hydrochloridis.....gr. iss	1
Aquæ dest. q. s. ad.....3iiss	10

The solution is employed at night only in chronic cases, but repeatedly in acute glaucoma. I have employed this combination several times daily in a number of cases, and have found it to act advantageously.

Gentle massage of the eyeball is of decided advantage and should be practiced several times each day, for five minutes at a time. In addition to these local measures, the patient should be instructed as to the number of hours daily the eyes should be used in near vision. All near work should, of course, be much restricted, and should be carried on only under the most favorable conditions regarding illumination, posture of the patient, etc.

Proper lenses should be adjusted to the eyes, both for near and far use, and the refraction should be frequently estimated and any error corrected, changes in the refraction being rendered frequent by the action of the miotics on the ciliary muscle.

As pointed out by Theobald, the astigmatism will often be found to be against the rule in chronic glaucoma, though I believe that this is rather the result of the stretching of the posterior part of the eye than, as Theobald states, the cause of the glaucoma.

A large number of hours daily should be spent in the open air, and, as the disease is undoubtedly frequently the ocular expression of chronic rheumatism and gout, the patient should be urged to spend the greater part of the year under the most favorable climatic conditions to combat that diathesis. The skin should be kept active, the gastrointestinal apparatus regulated, and any local source of inflammation or irritation, neighboring on the eyes, such as inflammation in the nasal passages or their accessory sinuses, should be allayed. Particular care should be given to the peripheral circulation, nitroglycerin and strophanthus being often of value. Zimmerman thinks that adonis vernalis is especially useful in chronic cases. Strychnia should be administered, not only on account of its action on the circulation, but also because of its influence on the optic nerve. On account of their antirheumatic properties, the salicylates are of decided value and should be frequently administered for continued periods.

Although miotics do tend to provoke a certain amount of conjunctival irritation, the excessive reaction which sometimes follows their employment is often mycotic, just as atropin irritation is mycotic, and can be prevented by care in preparing the solutions, while the continuous use of cleansing and sterile lotions in conjunction with the miotics will usually allay whatever slight irritation they occasion.

The miotics which are best adapted to control intraocular tension are the salicylate of eserin and the nitrate of pilocarpin. As pointed out by Landolt, this salt of eserin is more persistent in its effects and less changeable in solution than other salts of the drug, and is less irritating to the conjunctiva. Eserin, however, in addition to its action on the pupil, stimulates the ciliary muscle, and in cases where there is ciliary congestion, as in acute and subacute glaucoma, its use should be conjoined with cocain, which neutralizes its contracting action on the blood vessels and diminishes the sensibility of the ciliary nerves. Pilocarpin may be substituted in such cases, as it has a much weaker action on the ciliary muscle than eserin, though its action on the pupil is also slighter, so that it must be used in twice the strength of eserin to gain the same amount of contraction.

It should be remembered that a moderate amount of pupillary contraction avails but little, and it should be the aim of the surgeon to keep the pupil continually contracted almost *ad maximum*. I prescribe a solution of pilocarpin for use during the day, and one of eserin of twice the strength at bedtime, thereby avoiding the blurring of vision which is occasioned by the action of the eserin on the ciliary muscle during the day, while the eye receives the greatest effect of the drug during the eight hours or more which elapse between the instillations of the drops during the night.

At times, though very exceptionally, a mydriatic effect will follow the instillation of pilocarpin. This has been determined by Lilienfeld[2] to be due to an impurity in the form of jaborin, an isomer of pilocarpin. I have noted this occurrence in one case, but the eyes suffered no injury, intraocular tension not being appreciably elevated.

[FOR THE DISCUSSION SEE PAGE 726.]

THE CARE AND TREATMENT OF INEBRIATES.*

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The therapeusis of inebriety turns like that of any other morbid condition on the definition of inebriety. In such conditions the relative element is largely involved, not merely as to quantity drunk, but also as to the character of the individual affected. Drunkenness is an old condition and made its appearance early in evolution among the social animals. Bees, wasps and ants become intoxicated on fruit ferments and recover from the intoxication with apparently the same experience of exhaustion as the human being. There is hardly a race which has not, independently of all others, obtained a method of intoxication, varying from the use of fungi, as is the case with certain Siberian aborigines, to that of distilled liquors.

2. Centralbl. f. prakt. Augenhk., May and June, 1901.

* Read in the Section on Hygiene and Sanitary Science at the Fifty-seventh Annual Session of the American Medical Association, Boston, 1906.

Distilled liquors were at first comparatively rare as a means of intoxication, and under the title of essences were sold almost entirely by druggists. With the development of the gin industry in the eighteenth century, the use of strong alcoholic drinks was rapidly popularized. Crude methods of distilling, however, had early been employed in rural distilleries and the percentage of alcohol abuse was through this, as it is in Italy to-day, much larger among the rural than among the urban population. Practically, the eighteenth century marks the abuse of alcohol in the urban population. The early object of using intoxicants was not to become merely stimulated, but to get drunk. Drunkenness implied no necessary stigma. Indeed, it was gravely debated in the seventeenth century whether it were not beneficial to get drunk at least once a month. The early claim for gin, which was the first great urban distilled liquor introduced to the English-speaking population, was that one could get drunk for 4 cents. The influence of this practice led to a certain belief in the manliness and even in the beneficial influence of drunkenness. Like other defective beings, the inebriate retains too much of this spirit, and at times has reversed it, ascribing all his deliquencies, like the one-sided sociologist, to alcohol. It is this element which furnishes one great obstacle to treatment and which necessitates classification of inebriates as a guide to management and therapy. Inebriates may be divided into congenital defectives, weak-willed instabilities, accidental inebriates, hysteric inebriates, periodical inebriates and inebriates with an acquired nervous constitution.

The congenital types are very frequently of the pseudo-criminal variety who indulge in alcohol as a means of shirking responsibility or of securing support and sympathy. The alcohol is simply an expression of moral defect and a dodge to secure sympathy. Such cases are the opprobrium of all treatment, like the congenital criminal type generally. These individuals are incapable of acquiring the secondary ego which admits the rights of others in property, happiness and opinion.

The weak-willed inebriates, like the weak-willed criminals, depend to a considerable degree on environment, which, in part, is constituted by the general condition of instability at the time he is subjected to temptation. In many of these weak-willed cases a general physical exhaustion accompanied by irritability underlies the yielding to temptation. These people are generally what is called lithemic and suffer from the alternate buoyancy and depression accompanying lithemia. Many of them also display a high degree of urinary acidity which culminates just before they yield to an intoxication. As alcohol very frequently in these cases restrains the eliminating power of the kidney and the poison-destroying power of the liver, it increases the factors which lead to its abuse. Furthermore, diet which increases the urinary acidity increases the craving for alcohol. In these cases, moreover, there is a tendency to the dreamful, exhausting sleep states which prevent proper recuperation from fatigue and increase the general nerve irritability and consequently decrease the balance constituting will power. These are the cases which so often mislead their friends and the sanitarium officials because of the apparent improvement under the hygiene of the sanitarium, which hygiene requires too much of psychic effort for the weak-willed, instabile individual to maintain after leaving the institution. The trouble with this class of cases is that the periods of treatment are too brief and the medical supervision too short to restore the proper balance, constituting will.

The third type includes inebriates made such by a great moral shock, who have previously been markedly strong-willed, but in whom the moral shock has upset the physical and intellectual balance constituting will. Here, as in the weak-willed instabilities, the tone of the will requires restoration and the patient, furthermore, needs the physical buoyancy overcoming mental and physical depression. The acid states and indicanuria are peculiarly present in this class of cases; liver, kidneys, skin and lungs need attention, as well as the general mental and nerve tone. Moral discipline is also very essential and requires peculiarly the application of the French principle that for every evil there is always compensation. There is in most of these cases an underlying depressed mental tone which needs special attention, since influence can thus be best exerted in restoring the normal tone of the will. Very frequently there is, as in melancholia, a paralysis of the social factors, causing the subject to disregard the claims of his family or of those dependent on him. A continuous appeal to these claims is often peculiarly needed. Here medical care of the rest-cure variety comes into play. In none of the types described can the promise of the patient to abstain from alcohol be depended on wholly, nor can his promise to subject himself to dietetic and other therapy be relied on.

The will in all three cases is at the mercy of any impulse which does not present to the subject the appearance of the violation of a contract. The various signings of the pledge, etc., have not acted in the direction of improving will power, but in the direction of counter suggestion to impulses. That such suggestion is potent at times under very favorable conditions there can be no doubt.

Hysteric inebriates are closely allied in type to the weak-willed inebriate, except that there is a deeper nerve defect. The hysteric inebriate finds a satisfaction, even voluptuous pleasure, in shocking the moral sense of his or her friends and in the notoriety thereby occasioned. This is peculiarly the case with the female "rounders," who in the English-speaking countries have, like Jane Cakebread, been arrested so many times for drunkenness. These cases are the more intractable as the appetite for alcohol replaces the sexual appetite. Many of them prefer the shock given their friends and the general public by intoxication to sexual indulgence. Individuals of this class are frequently found among young girls about the period of puberty. There is generally in these cases congenital defect which has interfered with the development of the secondary ego.

The periodical inebriate, strictly speaking, is not an inebriate at all as a rule. There is a widespread distinction between the true periodical inebriate or the dipsomaniac and the inebriate proper. An alcoholic patient, as Legrain remarks, becomes insane because he drinks; a dipsomaniac is insane before he commences to drink. Dipsomania may be complicated by alcoholic symptoms, but alcoholism never leads to true dipsomania. Alcohol is an intoxication which has as its cause alcohol, while dipsomania has its origin in a congenital defective condition and alcohol is a secondary factor, which may be replaced by any other intoxicant leaving the syndrome all its psychologic characters. Dipsomania proceeds in paroxysmal attacks and the appetite for intoxicants is absent between the attacks. The development of alcoholism depends directly on the greater or less degree of

consumption of alcohol. Dipsomania, therefore, is a periodical insanity characterized by irresistible craving for alcohol or narcotics during certain periods preceded and succeeded by nervous and mental change in the individual affected, intermingled with periods of sobriety. The alcoholic element is a mere manifestation determined at the outset of the attacks. The dipsomaniac would be insane during the drinking periods even if no alcohol were used. The condition, therefore, is akin to epilepsy. Dipsomania may be complicated by symptoms of alcoholism: depression, exhaustion, tremor, delusion, oppressive dreams approaching to somnambulism, hallucinations, etc. The treatment of dipsomania turns on the discovery of the conditions preliminary to the drinking period and the determination whether this can be prevented by dietetic and therapeutic methods, as is done in cases of epilepsy. The individual during the drinking periods is not legally responsible, since free determination of the will is impaired, not merely by the alcohol but by the underlying nerve state which in no particular is due to alcohol, albeit it may be aggravated thereby.

Underlying many complicated neuroses, some of which belong to the protracted neurasthenias, some to the true hysterical constitution and some to what may be called the paranoiac neurosis, are states produced by traumatism, by insulation, by electric shocks from live wires, by nervous states after the essential fevers, by conditions resulting from uterine and ovarian strain and defect and from severe strains in business with consequent anxieties.

In 23 cases in which degenerative shocks were charged to alcoholic parentage, both father and mother were alcoholics. The fathers in four cases had been temperate, industrious and affectionate ere being sunstruck; following this came periods of irritability, excessive drinking and spendthriftness. The mothers had remained free from the use of alcohol after the fathers' breakdown, but were nervously exhausted from the strain; one becoming depressed during pregnancy was given gin for the depression and became an inebriate after delivery. In three other cases dysmenorrhea developed during the nervous strain. The popular prescription for this, gin, was given with the result of producing inebriety. In two of ten cases where injury to the father had like results on both father and mother, dysmenorrhea resulted after a railroad accident and gin drinking to relieve this followed and became a habit. The fathers' nervous system broke down under the strain and they both became inebriates. In two other cases nervous exhaustion from typhoid fever produced the same outcome, inebriety, in father and mother. In the remaining cases inebriety was the product of nerve exhaustion after various protracted infections. The influence of local sources of nerve exhaustion, like eyestrain, nose and throat, ear and other strains and from the reproductive organs, must be here included. As with the insane, every source of nerve irritation requires attention in the inebriate and removal whether the same be eyestrain, reproductive organ strain, nose and throat strain, or strain seated elsewhere in the body. In the management of this class of inebriates the underlying nerve state has to be taken into account and the fact that this nerve state peculiarly deranges metabolism and elimination and thereby acts in a vicious circle. While much may be done for the neurasthenic and hysteric types, the paranoiac type is practically hopeless. Indeed, it often presents periodic symptoms leading to a diagnosis of dipsomania or inebriety, which symptoms disappear in the insane asylums or in the penitentiary, leaving behind a clearly developed paranoia. In these cases, however, there is sometimes a good mental background which keeps the paranoiac tendencies in check and which may be aided by removing all sources of irritation. Unfortunately, however, strain tends to break down this mental background and the irritability of the condition predisposes to alcohol and at the same time the condition is peculiarly intolerant of alcohol. In all these types of cases protracted medical supervision is needed.

The management of inebriety, therefore, is management of a protracted disorder like typhoid, where any "specific" becomes an absurdity, since the patient, and not the disease, requires treatment. Strychnin is beneficial in nearly all nerve defects, because it enhances general circulation, gives tone to the heart and adds a certain buoyancy which offsets depression. For this reason strychnin and nux vomica have often been credited with curing inebriety. I prefer strychnin nitrate, 1/100 gr. to 1/50 gr., three times a day, either in solution or in pill. Other preparations useful occasionally are the hydrobromate of strychnin, 1/50 gr., and arsenate of strychnin, 1/100 gr., once or twice daily. Other good tonics for chronic alcoholism are the following:

℞.	Tr. nucis vomicæ	f℥ss	2
	Acidi phosphorici dil	℥i	4
	Aquæ chloroformi	℥i	30
	Aquæ dest., q. s. ad	℥vi	90
M.	Sig.: A sixth part three times daily.		
℞.	Tr. nucis vomicæ	℥iv	15
	Acidi nitrici dil	℥v	20
	Fluidextracti leptandræ		
	Fluidextracti taraxaci	āā ℥vi	90
	Infusi quassiæ, q.s. ad	℥viii	240

M. Sig.: Two teaspoonfuls in half a glass of water two or three times a day.

Mandragora is an old remedy for conditions of depression, and, as it undoubtedly adds a certain nerve-toning element to a decided eliminative tendency, there is no doubt but that at times it would prove beneficial in certain cases of inebriety. Its nerve-toning and resultant sedative process, as well as its eliminative action, however, are greatly overestimated. It has an action on the heart resembling that of digitalis, but has not quite the toning effect on the arteries as strophanthus, with which it has been allied. It was a great favorite with the Greek and Roman alienists, and their claims for it have been revived in St. Louis, the home of proprietary preparations. Like all the nervous exhaustion states, inebriety is accompanied by motor disturbance. The inebriate requires restful sleep. Combinations of sulphonal, of trional, of veronal and tetronal with old vegetable narcotics, like passiflora incarnata, hyoscyamus, conium, etc., are frequently beneficial for this purpose. The following is an excellent formula to produce sleep in these cases:

℞.	Sulphonal	gr. xviii	1|16
	Fluidextracti conii	m. xviii	1|12
	Pulv. glycyrrhizæ, q. s.		

Ft. caps. No. vi.

Sig.: Take two at 6 p. m., two at 8 p. m. and two at 10 p. m. The next night half this quantity will probably suffice.

Lupulin in 10 or 20 gr. doses taken at bedtime will often serve as an efficient hypnotic.

Balneotherapy, on account of the stimulus of the circulation, is peculiarly beneficial in all its varieties. Cold sponging, given in such a way as to reach the spinal and

pelvic nerves, exercises a beneficial influence in many directions. In diet, red meats must be greatly reduced as well as the starches, while the fats should be increased. Food, as a rule, should be given frequently in small quantities, but should be very nutritious. Fresh acid fruits are of great value.

In regard to moral treatment the inebriate must place himself under medical control for a prolonged period; otherwise results will not be permanent. Separation from the family and from the previous environment in which the condition has developed is absolutely necessary in the vast majority of cases.

Inebriety is so varied in form, so subtle in operation, so intricate in development and so complex in causation, that its treatment is no easy task. No disease is more common and yet none so seldom recognized. It is more widespread than tuberculosis, yet nearly every state in our Union is taking measures to prevent and to treat consumption, but, save among a few enlightened people, drunkenness is regarded purely as a vice, a folly or a sin. People look on the drunkard as a good-for-nothing scapegrace. The preacher denounces him as willingly guilty of heinous sin. The judge punishes him as a criminal offender.

If a man is found in the streets of Chicago, Boston or almost any city in this country suffering from apoplexy, carbolic acid poisoning or "rat" poisoning, he is tenderly lifted into an ambulance and hurried to some hospital where he can be properly treated. If, on the other hand, a man is found unconscious from alcohol poisoning, the police pound him on the soles of his feet, endeavoring to wake him up, pitch him into a patrol wagon and throw him in a cell at the police station, from which he is afterward brought before a police magistrate and fined for committing a crime. This might, and does, occur daily, not only with mild inebriates, but with dipsomaniacs. Whatever their inherited tendencies, whatever their original weakness of will, whatever their inborn deficiency of moral control, whatever their natural susceptibility to alcohol, contumely and reproach, pains and penalties have been the only means which have been generally employed in the treatment of inebriates.

Dr. William Lee Howard, in "The Perverts," has so well expressed the truth I quote his remarks:

> The public gazes at the club-footed child, or the deformed adult, and utters a sigh of sympathy or an expression of regret that the parents or friends have allowed the sufferer to go uncured, the deformity uncorrected. The child whose twitchings are the symptoms of St. Vitus dance is the cynosure of its playmates, and often the victim of their ignorant ridicule. The child's distressing uneasiness and odd muscular movements, however, are recognized as the effects of disease and the social attitude of young and old is adapted to this recognition. Does the public ever realize that any group of the cells which make up the human body are liable to be distorted, undeveloped or misplaced during their formative period? That, while we pity the man with the deformed bones, and appreciate the fact that the deformity is due to no fault of his conduct, the man who was born with an analogous psychic defect is shunned, ostracised, and meets with social deringolade? It is the same old story. The world is ever too eager to censure what it does not understand. What is objective it accepts; what is subjective it ignores or ridicules.
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> With its knowledge of modern corrective surgery, the world blames the parents who allow their children to grow up deformed, rightly holding them responsible for not having had the defect remedied. But if the child grows up with some defect in its controlling centers, if the nervous system is a little unbalanced, the neglect and ignorance of the parents increase the instability, and the result in the adult is some form of impulsiveness. For the objective signs of this impulsiveness the helpless one is thrust aside, and the real offenders—the parents—meet with the sympathy of the world.
>
> If this symptom of a nervous affection exists in the man of ordinary intellect; if this man periodically demonstrates his restlessness by resorting to alcohol to relieve his horrible feelings, it is called by the unthinking masses vicious drunkenness. This condition—the disease, inebriety, or its rabid form, dipsomania—rarely prevails in the man of ordinary mental powers.
>
> The psychic conditions producing the unreasonable passion to consume enormous quantities of alcohol, morphin and allied drugs, is as distinct an affection as is the physical epilepsy seen daily on our streets.

I am charitable enough to believe, however, that the general public is only unjust and cruel through ignorance.

It was not so very long ago that an insane person was regarded as one possessed of the devil. Persons of unsound mind were starved, beaten and exposed to the cold when, if the patient survived this punishment, often of many days' duration, he was considered to be cured. In other cases these individuals probably "died cured."

All drugs, nostrums, and so-called cures are deficient in nerve restoration and moral renovation. Drunkenness is at once a moral and a physical evil. While we must look to the will, however weakened, of the inebriate, for an effectual and lasting cure, his physical system must be strengthened, his diseased condition of body treated, and his craving for alcohol overcome if possible. To aid in the accomplishment of such desirable ends, we need to employ various medicinal remedies, hygienic measures, modifications of diet, entertainment, moral influence, suggestion, etc. These means can best be employed in an institution especially equipped and designed for the treatment of inebriety.

In my opinion, sanitaria or institutions for the cure and treatment of these cases should be established and maintained by the state.

Some objections might be raised to the congregation of inebriates for treatment, but these are trivial as in the case of the insane and epileptics in comparison with the benefits. For instance, it has been urged that the moral tone is lower among a number of individual inebriates living together than where there is only one. Whatever weight can be attached to this objection is far more than counterbalanced by the emulation where there are different individuals, besides a sharpening of wit and a stimulation of thought, which are often of undoubted service in cultivating the intellect and elevating the tastes of the inmates.

In a properly managed institution the patient should not only have the advantages of the best medical treatment, baths, etc., but there should be lectures and discussions which would interest and stimulate thought, social gatherings, music, facilities for study, for the exercise of handicraft and for artistic work. With it all, however, there should be a kindly discipline and each patient's treatment, recreation, study, exercise and work should be carried out with regularity and system and under the guidance of a strong directing mind, by the unconscious force of a masterful friend.

Such an institution should be in the country with sufficient land to afford work for the patients which will give them the benefit of fresh air, sunlight and exercise. The labor assigned the inmates should be made as agreeable as possible. A man, for instance, who has always lived in the city, will learn something during his course of treatment, of agriculture, of horticulture, etc. Lectures should now and then be given on these subjects

so that the patient will return to his home with a wider knowledge than he possessed before, which in itself is of value.

The time spent in this country home would be of great benefit to the average man, especially the city-bred individual. There is something very restful and recuperative in virgin dirt. Nature soothes. Neurotic unstable people would surely gain strength and earthly virtue in life such as a country sanitarium of this sort would give them. A grove, a barnyard, a garden, a ploughed field, are far more healthful and not half so nasty as the average vaudeville or the many so-called attractions of metropolitan life.

The length of time a patient should remain in a place of this kind varies according to the individual, and the duration of the illness. Belief in a speedy cure is unconsciously fostered by the difficulties in the way of heads of families absenting themselves from their homes, from their business or other callings for a protracted period. Nature can not be cheated, and it is the duty of the medical adviser to state plainly to the patient and his friends that several months should be spent in the sanitarium. The so-called quick cures almost invariably result in relapses sooner or later.

I think this subject, "The Care of Inebriates" is a very important one, quite as important as the care of consumptives and it is our duty as medical men to create as rapidly as possible, a public sentiment toward the establishment of state institutions for the care and treatment of inebriates.

I wish that this Section on Hygiene and Sanitary Science at this meeting of the American Medical Association, would put itself on record as earnestly recommending such institutions.

THE PSYCHIC TREATMENT OF INEBRIETY AND ITS RELATION TO SO-CALLED CURES.*

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We apply the term inebriate to a class of persons who, involuntarily and not as a matter of choice, have become habituated to the use of alcoholic liquors in excess, either periodically or more or less habitually, and who, under these conditions, have lost their self-control and whose will power is entirely in abeyance to their appetite. I maintain, however, that in a large proportion of cases the will power is not destroyed, or so handicapped as to be beyond the power of resurrection, but is overcome and held in subjection by a master passion, which dominates the will. The indications, then, are simple; we must rouse the latent will power and make it aggressive; in other words, oppose the psychic to the physical nature. "The flesh lusteth (or striveth) against the spirit. We must reverse this order of things.

All forms of inebriety are not subject to this method of treatment. I exclude all cases complicated with organic disease, as the later forms of syphilis, or alcoholic lesions or other organic changes, etc.—complications not uncommon in this class of cases—conditions with which the will power has little or nothing to do and which must receive direct and appropriate medical treatment.

I consider the simple, uncomplicated form of inebriety, more especially in its earlier stages before serious lesions have occurred, and especially that earlier and formative stage which by common usage is often called "habit" or "vice." It is important, therefore, to note the fact that psychic treatment should be selective and applied only to appropriate cases.

PSYCHIC INFLUENCE.

Every student of psychology is familiar with the "influence of mind over matter." We see this in the sick room, as physicians we know "a merry heart doeth good like a medicine," and we are strongly inclined to believe that the personality of the medical attendant has as much to do with his success, in either his institutional or private practice, as his professional attainments. When he can conscientiously do so it should be the effort of every practitioner to instil his optimism into the mind of his patient. It is related of a distinguished London physician that he was called to see the wife of a prominent and well-known member of society. The physician prided himself on what he was pleased to call his "bedside manners." After he had left the sick room the husband asked his wife how she liked the physician. She besought her husband not to call him again, as he reminded her of the undertaker!

The sooner we as physicians recognize the fact that our patients are other than blood and bone, sinew and muscle, and that we should consider something else than tongue, pulse, temperature and excretions, and that there is an intangible, impressionable, sensitive, immaterial nature, influenced by material conditions and environments, which we can depress or elevate, according to our relations to the patient, the better will be our success in dealing with certain classes of diseases, and in proportion as we fully recognize the importance of these facts and apply them in a limited number of cases and to a certain degree in all cases in which the patient is at all responsive.

From time immemorial illegitimate medicine and quackery has thriven along the line of psychic influence. Whether consciously or unconsciously, there has been a tacit, practical recognition of the fact, and it has been acted on and constitutes the capital stock of all forms of nefarious schemes which are shapen in iniquity and conceived in sin—schemes that endeavor to make gain out of those unfortunates who are afflicted with "all the ills that flesh is heir to," and can be brought under its malign influence.

Within a few years, comparatively, legitimate or, shall we say, orthodox medicine has put its head out of its shell, looked around, "taken in the situation" and recognized the influence that mental suggestion and various psychic influences may play in the rôle of therapeutics. It has learned that certain conditions from without affect certain conditions within, according to psychic law, and so constitute psychotherapy as a department of therapeutics. It has learned that there is a class of mental disease in which the will power and the mental condition can be greatly influenced, benefited and often cured by such treatment and the active manifestations of which are the symptoms or outcome of the mental conditions, removed.

SUCCESS OF TEMPERANCE MOVEMENTS.

It is only by accepting the fact of the relation of psychic and physical law and the influential and causative relation the two hold to each other and their mutual interdependence that we can explain certain anomalous

* Read in the Section on Hygiene and Sanitary Science at the Fifty-seventh Annual Session of the American Medical Association, Boston, 1906.

conditions which are otherwise apparently contradictory. The inebriate is before us; he is a complex study; he is of all-around interest to us, not only body, but mind and will, his intellectual and emotional nature, his psychic as well as his physical makeup must be considered. We can not divorce the psychic from the physical. "What God hath joined together let not man put asunder." The study of mankind is man, but we have studied him from his physical, not from his psychic, side. "The body is more than raiment," and the body is simply the clothes that the man is wearing. Behind the veil of flesh is the real man himself: the sentient, emotional, controlling master of the body.

We can account for the success of the so-called temperance movements or instances of reformation in individual cases of well-known drunkards only by accepting as an explanation that of psychic influence. When under strong mental emotion the will becomes dominant, asserts itself and masters the alcoholic craving, the psychic overcoming the physical. As stated, I limit the application of psychic treatment to the simple, uncomplicated forms of inebriety in the early or initiatory stage, known as "vice" or "habit," and exclude all cases complicated with organic disease, which, of course, call for special treatment. Coincidently, however, in all cases I should use, as far as possible, those influences that would affect beneficially the mental or emotional nature of the patient.

TWO CLASSES OF INEBRIATES.

We are now prepared, at least in a measure, to understand why cases of "alcoholism," so-called, are cured outside of the methods of the theory and practice of medicine. It will not do to decry the facts concerning the so-called "cures," because well-authenticated cases are continually before us in which men and women who are drunkards have reformed and remained sober as the apparent result of the "cure," or who have become so independently of any "cure" or treatment.

We are, therefore, driven to one of two conclusions, that there are two classes of inebriates: 1. Those in whom the will power is not seriously impaired—only latent—and who are free from serious organic lesions and who are amenable or responsive to psychic influence. 2. Those in whom the will power is radically impaired, who are the subjects of irremediable disease, progressive and eventually fatal, and over whose condition psychic measures can have no influence. Such, I believe, is the rational and, therefore, logical conclusion, if we would explain success in one case and failure of success in another under apparently similar conditions. We must classify the inebriate, therefore, especially if we desire to subject him to psychic influences, for I believe it is only applicable to a certain class of cases.

QUACKERY AND THE INEBRIATE.

All forms of irregular medical practice, "patent medicine" vendors, the dispenser of specifics and nostrums, quackery in various forms, flings bait to all inebriates. Its treatment, to a certain extent, is non-selective, necessarily so, especially when it is carried on through the mails or the press, by letter or advertisement. Let us analyze the method rather than the drugs of the so-called "cures." Whether unconsciously or not, the promoters of these various financial enterprises, for such they are, *per se*, act along the line of "mental suggestion," influencing certain psychic conditions, not directly or openly, but by the presentation and medium of certain drugs or "cure-alls," by which the impression is conveyed that through the instrumentality of certain potent, infallible, special proprietary medicines a speedy cure will be effected.

The *modus operandi*, by which the "cure" is directed to affect the psychic centers of the individual and call out his latent will power, is ingenious as well as of interest. Consider, then, in detail how every move in the plan of these astute students of human nature is centered on the one object, to raise the individual along his emotional nature to that point where he shall exercise his will power and at least decide to "try the cure," by appealing to his confidence, hope, self-respect, pride, shame, fear, all the attributes of his moral nature that influence volition. The whole process is to him a "dark séance," over which the glamor of mystery is spread, the potent influence being concealed in the infallible, and precious, and mysterious drug or "cure." Hence the promoters of these "cures" differ from the regular specialist in psychotherapy, who practices directly on the psychic centers without the medium of drugs or other forms of therapeutic measures, and with the full consent and knowledge of his patient as to the methods used.

EXPLOITING A "CURE."

The average drunkard, when he is capable of any feeling at all and when his mental responses are not totally submerged or obliterated, is despondent, hopeless as to a cure or reformation, if he is not in a state of total indifference. The "infallible cure" promoter acts along psychic lines, using the "cure" as a blind and various measures as decoys to attain his end, meanwhile concealing his ultimate purpose.

Confidence Won.—First he must secure the confidence of the subject and the public in general in his truthfulness and ability, and so he announces that he has discovered an infallible, never-failing cure. He is very assertive, very positive, presents first-class credentials, testimonials, etc., in evidence. He procures a long list of prominent names to certify to the great benefit of his special method, the Right Rev. So-and-So and the Wrong Rev. So-and-So, and the great and good of the earth to attest to the fact of the efficacy of his "cure."

Hope Aroused.—Confidence being attained, his next step is to instill hope, to show the poor inebriate, despised and trodden under foot, the scum of the earth, that he has a real disease, that he is not the victim of a "vice" or "habit," that he is not a case for the law or the clergy, but for the doctor; that, having a disease, he is a respectable member of society; that he is, therefore, entitled to move in the highest circles (not necessarily alcoholic). Moreover, he has a disease of such rarity and extreme interest and value, hitherto unappreciated except by this special syndicate, that ordinary medicines, suitable for ordinary, every-day, commonplace disease, will not do, and so the quack proposes to recover him of his leprosy by using the rarest of medicaments and the most valuable of drugs; in short, that this poor, forlorn and necessarily hopeless outcast is to be treated with a "gold cure" or pearls dissolved in vinegar, or powdered diamond dust in capsules, if that were possible. He must have the rarest and best; the world has made a mistake and only now is his worth appreciated. Does not self-pride, and especially hope, the strongest mental stimulant one can put into the heart of man, come up under these conditions, which are purely psychic?

The Offer Accepted.—One of old said, "According to

your faith be it unto you," and this patient is rapidly approaching that point. His confidence has been secured and his hope stimulated; the promoter's pseudo-sympathy, mock compassion, pseudo-philanthropy, positive assertiveness and assumed confidence have secured their end. He is successful as a confidence operator, and can shake hands with the "gold-brick man" and the vendor of "green goods." His subject now has a will, a desire to "try the remedy." Here is the case of the spider and the fly; the former has asked him to walk into his parlor, for "it is the prettiest little parlor that ever you did spy," and he is ready to accept the invitation. He is assured of a positive cure in a short time at a moderate cost and absolute secrecy, no detention from business, a cheap, painless, absolute, prompt cure. The burden of years is to be removed in a few hours or days. What more could he ask?

A Cash Transaction.—But certain preliminaries are necessary; mind you, the quack wants gold, spot-cash gold; he is not under any psychic spell. He agrees to put so much gold into the blood of the patient, but the contract is that the patient must first put so much into the promoter's pocket.

The "Institution."—This trivial matter being settled, the prospective patient starts for the "institution," arrives at the station and receives a prearranged ovation from those who have already become inmates of the "institution." All this stirs up his self-respect and pride, and that "fellow feeling" which "makes one wondrous kind," and that communism of the unfortunate which constitutes its own fraternity asserts its influence.

The "Graduate."—After a short treatment he "graduates," mind you, from the "institution," which hereafter he must regard as his *alma mater,* not a hospital or a sanitarium. Being graduated, "he is eligible for membership" in one of the numerous "gold-cure clubs," which he is invited to join. Environment after cure, influence of association and following up the subject should not be lost sight of.

So far so good. All this has been along optimistic lines, but before the man leaves the "institution" another element in his psychic makeup is appealed to, and that is fear, to the effect that if he should get intoxicated and fall away, and thus disgrace the "institution" and dishonor his *alma mater,* he must never return, and he will be cast out of the synagogue and ever thereafter be regarded as a "publican and sinner."

PSYCHIC VALUE OF THE "CURE."

Although I have thus treated the so-called "cures" in a satirical vein, the illustrations are founded on fact. I ask if the methods used as described are not all along purely psychic lines, and do they not act by calling out the prominent elements of the emotional and intellectual nature, confidence, hope, fear, pride, self-respect, all of which strongly stir up the will to action, to assert and maintain its authority? Does not this method also explain how "cures" occasionally result, irrespective of the action of drugs, or when the latter play a feeble, irrational or illogical part?

The methods used we certainly decry as a species of mercantile trickery and unprofessional, and deny the action of any drug as a factor in the "cure." But can we so easily explain away the results, although these may be temporary or incomplete?

We appreciate the well-known psychic laws through which these results can be obtained, although masked and covered by false methods and operated under false colors. To the public and the patient the psychic side of the "cure" or "reformation," the real influence, is out of sight, and so is out of mind and evidence, and the prominence is given to the drug or cure exhibited, because in this the financial part of the venture is assured, which alone can succeed as a secret proprietary medicine, operated and controlled by a few individuals or a syndicate, as the case may be.

VALUE OF DRUGS IN THE "CURE."

The question naturally arises, What part do drugs play in the general scheme of the "cure"?

1. They act along the line of "mental suggestion." Drugs have a psychic value. If we announce a disease we must proclaim a "cure," a medicine, a drug. The public stomach and mind are so constituted with reference to medicine that the stomach always has the priority; one can not cure without medicine, and one can not substitute an influence for a substance, a dose of psychic for a dose of physic. The public will not tolerate any such substitution. Indeed, we of the regular profession not infrequently give a drug for its psychic value. The "bread pill" or the oft-used *placebo* will rise up and condemn us. "Tell it not in Gath; publish it not in the streets of Askelon."

2. The drug may act also as a therapeutic handcuff; by obscuring the vision and nauseating the stomach a temporary disgust for liquor may be produced and the insane craving held up for the time being. Thus something is being done for the patient and that of itself is of psychic value, and all this is essential to hold the imagination of the patient to the idea advanced and give the contract force. But all drugs that may produce a distaste for alcoholic liquors only exert a temporary control and can not be indefinitely prolonged, if of any active value.

3. In the so-called "cures" the drugs are not used in accordance with the rules and practice of rational medicine and are illogical as to their application. To assert that 100 individuals in all conditions of age, sex, temperament, stage of disease, etc., are to be treated in the same way, at the same time, same dose and same method, without regard to idiosyncrasy or other causes that influence the treatment of disease and the selection of remedies, is not in accordance with medical practice or even common sense. Such treatment is given on the principle that we all take a pinch of snuff and, therefore, we all sneeze. But these so-called "cures" are put up in definite, uniform shape as to usage and quantities, and are sold to individuals or "institutions" who desire to practice the "cure." The whole use of drugs in these cures is illogical and is not based on the practice of rational medicine.

4. Moreover, I do not believe that there is, or from the nature of the case ever will be, any so-called "cure" or specific for the treatment of inebriates, in the same sense that quinin is a specific for malaria or the iodids and mercury for syphilis.

I do not desire to give undue prominence to these so-called "cures" or specifics, nor to any organizations that are operating without the pale, and yet claim to be acting within the lines, of orthodox or rational medical practice. They are not so doing, either in their methods or their practice; the former are irrational and the latter is unethical. My sole motive is to show that the reason of their apparent success is not due to any drug or specific remedy, but that it is through the psychic conditions evolved, and so that, finally, when we are brought face to face with the "cures" or reformations result-

ing from irregular methods, or without the intervention of any method or drug, we can explain the result in these cases satisfactorily, inasmuch as they are in accordance with psychic laws, which are independent of any therapeutic agency through the action of drugs.

Mystery is the great stock in trade of all forms of irregular medical practice. I have endeavored to pull aside the curtain and reveal the secret. The "cabinet trick" loses interest and vanishes away when we are familiar with the mechanism that produces the optical delusion. Publish the formula and the charm of the secret specific and nostrum will be lost.

The basis of all medical humbug and charlatanism consists in operating on the credulity of the public and securing results by appealing to all the attributes of its moral nature. I do not bring forward as an inducement any mercenary motive when I allude to the alarming array of figures as to the consumption and cost to the public of the "patent medicines" and "cures" with which every civilized community is flooded.

PSYCHOTHERAPY.

We are beginning to recognize psychotherapy as a valuable adjunct to general therapeutics. If the quack and the medical humbug—illiterate, unscrupulous, unscientific—have met with success even in their rough and ignorant manipulation of this, the most delicate and refined of all our methods of therapeutics, what a future is in store for those who, fully educated and thoroughly conversant with this branch of medicine, win new laurels in the field of mental therapeutics, especially in inebriety. Nor must we fail to learn the lesson, although it may come to us from an irregular source.

SUMMARY.

Let me summarize in brief the points emphasized:

1. The so-called "cures" or specifics for alcoholism or inebriety do not attain their effect through the action of drugs, but through the influence of psychic law, which is the primal factor in the "cure."

2. The action of drugs is indirect and secondary, but by mental suggestion may have a psychic value.

3. The class of alcoholics or inebriates who are susceptible to such influences is limited to such persons as are responsive and in the earlier or formative stage of the disease.

4. The originators of the so-called "cures" are illogical in their use of remedies and, therefore, untrue in their assertions, and in their practice are not in accord with rational therapeutics or the theory and practice of medicine. They are not ethical nor in any sense humanitarian and, therefore, should be excluded from all the protection afforded legitimate or regular medical practice and should be placed under the laws which regulate and control proprietary or "patent" medicines.

5. There is not any medicine, drug, preparation or "cure-all" which is a specific in the treatment of alcoholism or inebriety in the same sense that quinin is a specific for malaria or mercury for syphilis.

6. In a certain class of selected cases of inebriety it is proper to use psychotherapy as a therapeutic agent, especially in the earlier stages before complications develop and when the patient is responsive to such treatment. In cases complicated with organic disease appropriate medical treatment should precede or accompany psychotherapy if the latter be deemed advisable.

[THE SYMPOSIUM ON ALCOHOL, OF WHICH THE PAPERS OF DRS. BUTLER AND MASON ARE A PART, WAS BEGUN IN THE JOURNAL FEBRUARY 2, AND CONTINUED FEBRUARY 9 AND 16. THE DISCUSSION IS ON PAGE 728.]

THE PLAGUE IN AMERICAN CITIES.*

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SACRAMENTO, CAL.

To the American physician of the last generation "plague" meant but very little. If he had a particularly active imagination and especially if he had read some of the thrilling accounts of the terrible epidemic, he saw an infected city where the workmen were stricken at the bench, the banqueter at the table; where the ties of kinship were forgotten in the general alarm; where people fell dead on the streets without warning, and where the well were too few to remove the dead. This picture could hardly be too strong for the truth, but it was general and carried nothing of a special nature. Physicians saw nothing of the cause of the disease, nothing of the symptoms—only the result.

Our text-books almost wholly ignored the question, and our teachers referred to it, if at all, as something we would never see unless we traveled in the far East. We were brought up and trained in the belief that America was exempt from its visitations, and that it was useless spending time studying a disease we should never meet. We were rudely awakened, especially we on the Pacific coast, when in 1900 the first cases were recognized in San Francisco. We found our fancied security was false, and that it not only could but had invaded our shores. Whence the first case came, or when, we can not tell, nor does it much matter, but the fact of its having secured a footing and gone for a certain length of time unrecognized is of great importance. It serves to point out and to emphasize the danger in which we are continually, and the need of thorough instruction in regard to the disease, its diagnosis, its methods of dissemination, cause and treatment.

It is not my intention to treat of these things, but to point out to the profession the danger of the situation and urge that steps be taken to meet it.

With our present close relations with the countries where plague is always in existence, relations which will in the future grow closer as our commerce extends, we stand facing a problem, the solution of which must be grasped at once. Much is being done by the United States Public Health and Marine Hospital Service to prevent a fresh importation of the disease. The system of inspection of cargoes and passengers at infected ports and again at home ports by physicians of this service is a great safeguard and will do much to protect us, but careful and watchful as these men are, they can not close all avenues of danger, and we must be prepared at any time, in every part of the country to meet and to suppress its invasion. To be so prepared the natural history of the disease must be better known.

THE PLAGUE BACILLUS AND TRANSMISSION OF THE DISEASE.

The plague bacillus discovered by Kitasato is the undoubted cause of the disease, and with the aid of the microscope the diagnosis is comparatively easy, thus removing one great obstacle. The means of development and dissemination must be thoroughly studied, for on the understanding of these processes our success depends. Some things in regard to the disease we fully understand, but other and important ones are at least doubtful. We know that the pneumonic type is violently

* Read in the Section on Hygiene and Sanitary Science at the Fifty-seventh Annual Session of the American Medical Association, Boston, 1906.

contagious, every droplet of sputa being thronged with germs. We know equally well that in the plain bubonic type there is slight danger of contracting the disease directly from association with the patient. We know also that there is always a great mortality among rats at the time or preceding an epidemic. What is the connection between the two? Is it direct or through an intermediary insect? Is the disease a place infection, the germs living in the befouled soil and under favorable conditions developing in great virulency? In what way and to what extent is it spread by merchandise? These and many more are questions that must be answered before we can hope to cope intelligently with the question. That merchandise, as claimed by some, especially Kitasato, in accounting for its late appearance in Japan, is sometimes responsible, there can be no doubt, but as it becomes infected only through the virus, it is not a probable cause, except in such as may be accessible to rats. Infected clothing is a recognized cause, and it is especially dangerous when it is folded and packed away from the disinfecting influence of light and air.

EXPERIENCE IN CALIFORNIA.

Our experience in California leads me to believe that the disease is spread almost wholly by means of animals, of which the rat is the chief but not the only one. Several cases have occurred outside of San Francisco, where there was no death among rats. Squirrels, however, were dying freely in the vicinity and all the cases could be traced to exposure to them. One recent case, after a two years' rest, was in a young man in a healthful and sanitary part of Oakland. He had not visited San Francisco nor been exposed to imported goods or infected clothing. He had, however, four days before, hunted squirrels in the infected district. That the squirrels are infected with plague is not as yet proven, but circumstances point strongly that way, and it seems only reasonable that the United States Government should investigate this point, for if it proves to be a fact it is of the utmost importance to the whole country.

While probably California, owing to her location on the Pacific coast and the close communication with the Philippine Islands, Hawaii and the far East, is more liable to invasion of plague, she is doubtless less liable to a severe epidemic. Her long, warm and dry summers and the absence of a cold season, when the population of the filthy quarters of the city are confined to the houses, her population, as a rule, being well nourished and healthful, and above all, her excellent sanitary conditions, will tend to a minimum number of cases.

THE RÔLE OF FILTH.

While filth is not the immediate cause of the disease, it is possible that the germ may live and multiply in it. If not: "Filth and overcrowding imply close proximity of the sick and the healthy; an atmosphere saturated with the emanations of the sick; a lowered tone of the general health; abundant saturation of soil and surrounding media with animal refuse, filling them as a nidus for what might be termed natural culture of the germ; abundance of body vermin of all kinds; abundance of other vermin, such as rats and mice; carelessness about personal cleanliness, about wounds of the head and feet, about clothing, and about food, dishes and water. One can understand how, in such circumstances, the germ can multiply and spread."

It is not safe, however, for any community, no matter how favorable their sanitary and other conditions may be, to depend on them for protection. Plague is a rodent disease and wherever man goes, rats will follow, and it is quite possible for them to carry the disease long distances before it shows in man. Any vessel that sails the sea may become the bearer of the plague rat, and unless the utmost care is exercised that rat may land, and become a center of infection. These rodents do not stay quietly in the ports of entry, but take trains for other parts, there to infect their kind and then mankind.

PROPHYLAXIS.

Our only safety is an active interest in the disease and a solution of the many questions pertaining to it. The lack of exact knowledge as to its means of dissemination and avenues of inspection often make the efforts at controlling it ineffective, and severe epidemics result. Still, much is known that is useful in preventing an outbreak and in limiting it in its early stages. Every health organization, whether state or city, should be in possession of these facts and ready to use them at all times. In cases of great exposure they should constantly watch the rats, and all found dead should be examined. Their entire extermination is a question of the near future. On the physician, however, must always rest the great responsibility of discovering and recognizing the disease in men, and this is no easy matter. Often, in the beginning of an epidemic, the disease easily passes for some other, especially in the pneumonic form. Even the bubo may not excite suspicion, and naturally would not, in one who had not given the subject especial study.

The disease is widespread over the world and may infect any port at any time, and our only safety lies in an early and public recognition of the disease, and immediate active measures for its suppression.

[FOR DISCUSSION SEE PAGE 728.]

THE PHYSICIAN AND THE NOSTRUM.*

EDWARD BOK.
Editor of *The Ladies' Home Journal.*
PHILADELPHIA.

During the four years that we have been engaged in the work of arousing public interest in the evil of "patent medicines" it has been my pleasure, in common with others, to have received hundreds of approving letters from physicians all over the country and scores of complimentary resolutions from medical bodies. And it is my sincere hope that the few words I shall say to you this evening, in my first appearance before a medical body, may not be accepted as being in any way unappreciative of those marks of approval. I appreciate and value them.

But I feel that the time has come, if we are to succeed in the fight in which we are engaged, to be perfectly frank as regards the relation of the medical profession to proprietary medicines. I am going to try to point out to you that in two distinct ways the medical profession is to-day absolutely hindering us laymen in our fight and clogging the wheels of further progress: First, in your inactivity where you should be active, and, secondly, by your direct coöperation with the "patent medicine" traffic.

Every man knows that the life of a nostrum depends on publicity, and one of the first things we did in our

* Read, by invitation, before the Philadelphia County Medical Society, Dec. 12, 1906. A report of the papers and discussion at this meeting on the Symposium on the "Suppression of Quackery" appeared in THE JOURNAL, Jan. 19, 1907, p. 248.

fight was to see to what extent the press could be persuaded to close its columns to the advertisements of "patent medicines." It was not easy, for the business office of a paper or magazine is very powerful. Yet to-day scarcely one of the reputable monthly magazines will accept a "patent medicine" advertisement, and the same is true of the prominent weeklies. The best of the farming papers are to-day immune from this advertising. Pressure is being brought on the religious press that will soon result in a general clearing up of those papers. Progress with the daily newspaper has been slower; still, there are forty-three daily papers, large and small, to-day that will not accept "patent medicine" advertisements. Now, gentlemen, remember that such a step means a great deal in the revenue of a periodical. I know a magazine that could easily increase its advertising revenue six figures a year if it accepted "patent medicine" advertisements. I have no doubt that if the New York *Times* and Philadelphia *Ledger* admitted this business these two papers could increase their revenue by at least fifty thousand dollars a year. Many of these papers and magazines have taken this stand on principle; others because of the pressure brought on them by their readers. The public at large has been writing to its newspapers insisting that those advertisements shall stop; the church people have been writing to their papers; the farmers have been writing to their papers—all classes of the public have been busy; all classes, gentlemen—except the physicians.

Look at your average medical paper—reeking with the advertisements of proprietary—so-called ethical—preparations. And not only advertisements, but reading notices palpably intended to deceive. The very class of papers that should have been the first to cleanse their pages is to-day the last to make even a move in that direction, and stands to-day, in this respect, as a discredit to honest journalism.

Now, what is the result? I go to the publisher of a newspaper and ask him to clean his columns of "patent medicines," and he points, as he has done in many cases to me, to the medical press. "Why, man," he argues, "these preparations can't be so bad as you fellows make out, or they wouldn't be advertised in these medical papers. These medical publishers know better than you do what is good and what is bad in these 'patent medicines,' and what they allow to go into their papers I guess we can safely stand for." That is why it is so important that the medical press should be cleansed of these advertisements: it is in the influence, the example that they exert on the lay press, and it is an argument on the part of the lay publisher that is very difficult to combat. It is this argument that again and again is used by lay publishers in writing to their protesting readers, and then these readers send the letters to me and ask, "Is this true? Are these advertisements permitted in good medical papers?"

Now, you know that it is true, and you know also that it should not be so, and yet what have you, physicians, done to stop it? You have, in your societies, passed resolutions, a very easy and comfortable thing to do and about as ineffective as it is comfortable. I have myself seen these resolutions received by the medical publishers, and disposed of with a grin—in the waste-basket. But what have you done as individuals? For let me tell you, as an editor, that the editor or publisher of a paper of any kind is mighty sensitive to the individual protest of his readers. When letter after letter comes in harping on the same subject, take my word for it: that editor or publisher is going to sit up and listen. Those letters are from the people on whom he depends for his support, and he is not turning a deaf ear to the source of his livelihood.

Let me give you an illustration of how this works. One of the most prominent daily newspapers began to get letters from its readers objecting to its "patent medicine" advertisements. The first few letters made no impression on the publisher, but as they kept coming in he realized that he had to make some sort of a show of being good. So he declined the most flagrant. When this fact became known to one after another of the "patent medicine" manufacturers, they argued that if this newspaper found it necessary to trim its sails to appease the public, it was idle for them to advertise at all to a public in that state of mind. So they stopped, and they have stopped so effectively that the publisher of another newspaper, which readily takes any "patent medicine" advertising it can get, told me a few weeks ago that, while his paper had carried in the first eight months of 1905 over sixty-two thousand dollars' worth of "patent medicine" advertising, this year for the same eight months he had carried eighteen thousand dollars' worth. That is what can be done.

Now, while the people at large have been busy with their papers, I have not heard of a single, well-ordered and coherent movement on the part of the medical profession individually to do the same work with its papers. You have talked beautifully, but what have you done? The best proof of the fact that you have done practically nothing is shown in the condition of your papers, and yet, gentlemen, it was your duty, more than the duty of any other body of men, to do this. It is no excuse to say that physicians are too busy. There are men in other professions just as busy as you are. You have been inactive. You have allowed us laymen to work with our papers while you have sat idly by, or made desultory attempts, where you should have taken a vigorous individual stand and stopped it. And you can stop it if you make the honest effort. You are the supporters of these papers; without you they can not exist, and on you, directly and solely, rests the responsibility of the present situation that we as laymen can scarcely go any farther with compelling the cleansing of our papers so long as those papers can point to the medical press as its companion in perfidy.

You have two ways open to you:

Either insist as subscribers and readers that these papers shall cease these advertisements:

Or stop, as physicians, from prescribing these medicines yourselves and thus make this advertising unprofitable. Or both.

And this brings me, naturally, to my second point: your direct co-operation with the "patent medicine" curse—a co-operation that I confess, gentlemen, is nothing short of appalling. I give you my word for it that as one result of my investigation of this question there has come to me an amount of evidence as to the unintelligent prescription of secret proprietary medicines on the part of physicians that, if published, would tend to cause an amount of unrest and distrust on the part of the public that is mighty unpleasant to think of.

It is not for me, gentlemen, to diagnose the reason why physicians habitually prescribe proprietary preparations. Several of your own writers claim because it is easier; others because physicians are lazy, and still others that your medical colleges do not adequately teach the writing of prescriptions. I do not know, for I am not

competent to say, but what I do know is that this prescribing of these preparations seems to be on the increase to an alarming extent. You own Doctor Jacobi says that in twenty-five years the percentage has grown from one in fifteen hundred prescriptions to 20 and 25 per cent. He also says that in a single New York drug store investigation showed that "70 per cent. of the prescriptions sent in by reputable physicians contained either nostrums, pure and simple, or as a part of a compound." Doctor Billings, of Chicago, says that in his city the records of one drug store showed 42 per cent. of prescriptions prescribing proprietary medicines, and in another 50 per cent. In Boston, 38 and 48 per cent.

Now, gentlemen, I will not gainsay that there are good proprietary preparations and that a physician, after a diagnosis of a case, and knowing his patient, and being fully aware of the exact ingredients in such an ethical preparation, is perfectly justified in prescribing it, if he feels that it meets the conditions of that case. Whether such a course is detrimental to scientific medicine is for him to settle with himself.

But there is a time when he is not justified in such prescription, and when he closely borders on the criminal line, and that is when he prescribes a preparation of which he either does not know the ingredients or, what is even worse, when he has erroneous information as to those ingredients.

And yet this prevails to-day in the medical profession, and prevails to an extent that is almost impossible of belief to the layman. When I heard the first mutterings of this condition of things I gave it no credit. While I knew that physicians were human and made their mistakes in common with us all, I could not believe that they could make *that* mistake. But instance after instance came to me until I could no longer turn aside, and I determined to find out. And recently I did.

Conditioned that I should not reveal my source of information, nor give names of remedies or physicians, I was given an opportunity to examine 100 prescriptions that had been filled. Of those 100 prescriptions, 42 prescribed a proprietary drug or article in part or in whole. I selected 30 of these, and called on each of the physicians who had written those prescriptions. Now, gentlemen, those physicians were men of excellent standing, some very high in their profession, and how many of those 30 physicians, would you say, gave me an accurate, or anything approaching an accurate, analysis of the ingredients of the nostrums which they had prescribed? How many? *Two*, gentlemen, *two* out of all the thirty! The rest either did not know, or—what is even more dangerous—thought they knew when they did not.

One of these prescriptions called for a certain headache remedy, given to a woman who was in an exhausted condition, who had weak heart action, and who, having read of the dangers of headache remedies, did not trust her own judgment, and called for her family physician. He gave her a remedy, saying that he knew it to be harmless, that it was entirely free of the powerful drugs of which she had read. Within a half hour of taking the remedy the woman's lips began to get blue, she went into unconsciousness, and it required all that two doctors could do to bring the woman back to consciouness. The remedy contained 61.5 per cent. of acetanilid! The physician, when I saw him, showed me his proof on which he had based his knowledge, the statement of the manufacturers, whom he said were reputable people!—a statement, as I happen to know, written by a man who never went to a medical college, a man whose word every physician would scorn to accept did he know him. When I showed him my analysis he was dumfounded, and confessed he hadn't known. *But, gentlemen, he should have known. It was his duty to know!*

Another prescription called for a certain tonic that the physician told me was one of the most reputable tonics known to the profession; its ingredients of quinin, beef and iron were universally known and nearly all physicians prescribed it. One of its greatest virtues was, he told me, that it was non-alcoholic. I proved to him that the tonic did not contain even a trace of beef or iron, but that it did contain 22 per cent. alcohol. He could not gainsay my authority; he was surprised and confessed that he had not known. *But, gentlemen, shouldn't he have known?*

One of these prescriptions gave to a child a remedy calculated to soothe its restlessness. It did so, so effectively that the parents changed their physician, went to another, who prescribed another remedy, and the child lay in a stupor for two hours. I saw both of these physicians; they confessed to me they did not understand the case. But I did, gentlemen, for both of these physicians had given that child morphin concealed in "ethical" proprietary preparations, and when I proved this to them they were amazed and confessed they hadn't known. *But, gentlemen, should not a physician, prescribing for a child, know?*

Five of these prescriptions called for a certain tablet supposed to build up the system in extreme cases of weakness, and especially given to women at certain periods of physical drain and exhaustion. All of the physicians assured me that these tablets were among the few ethical preparations that could be absolutely trusted, and each showed me a printed formula of their contents. These tablets, I was told, contained among other things iron peptonate, two purely vegetable compounds, and extract of nux vomica. "The best on the market," said one of these physicians to me. As a matter of fact, those tablets contain not the slightest trace of iron peptonate or nux vomica, but do contain two principal ingredients—starch and liquorice! And yet, gentlemen, these same tablets, I have learned from careful and authoritative sources, are to-day being prescribed by a large number of the best physicians of Philadelphia, and when I have asked several of them on what authority they were accepting their ingredients I was shown a printed formula by the manufacturing concern!

Some time ago, finding it necessary to know about a certain nostrum advertised to the public, and having no time to make an analysis, I consulted five physicians in order to reach a necessary decision. All five physicians told me that the preparation contained a dangerous amount of cocain in it; that it was well known for containing that ingredient. I made my decision—only to find that I had made a wrong decision. The preparation contained not a trace of coca or cocain and never had. *Gentlemen, these physicians did not know. But they should have known, or else not have said what they did.*

And so I might go on; not isolated cases, not a case here and a case there, but a condition that is dangerously general.

Now, what is the result? The physicians are doing precisely what we are asking the people not to do: not to use these "patent medicines," because they do not know what they contain. What effectiveness can I make to such an argument when people write to me by

the score citing instances of revealed ignorance on the part of the physician of the preparation which he prescribes, and rightly say to me, "How do you explain this?"

Can I explain it, gentlemen?

Dr. Jacobi calls this practice not far from criminal, and I would rather have him say it than say it myself. But it is a mighty serious condition, and nothing confronts us laymen in our fight so insurmountably as this argument that can be advanced against the medical profession.

We are trying to separate the public from the nostrum, and have in a measure succeeded. But what are you doing? Now, let me bring this question home to you—home to the physicians of Philadelphia. Are you aware of the fact that this practice of prescribing nostrums has so insidiously grown on you that while in 1905 an examination of several thousand prescriptions written by Philadelphia physicians showed 41 per cent. to call for "proprietaries," this year, so far, the average shows 47 per cent.? Are you going to do more and more each year what we are asking the people not to do? If you are going to prescribe "patent medicines," why should the layman pay your fee as a physician in addition to the cost of the medicine which he can buy himself? We are preaching to the public to stop the nefarious habit of self-doctoring, but physicians, by such methods as these, are driving people to doctor themselves, driving them to the quacks and the charlatans. There is no question that the whole practice has grown out of thoughtlessness. But has not this thoughtlessness gone far enough?

Evidently, gentlemen, the Council on Pharmacy and Chemistry of your national association was created none too soon. But even without access to the analyses of the council, the physician has no excuse. Opportunities are open to him to learn the ingredients of the medicines he prescribes, and if he has no time to find out he has no right to prescribe what he does not know.

And so, gentlemen, you who should be with us laymen in our efforts to stamp out this evil, are not only making our fight the harder, but you are actually hindering us. We look to you for help, as I think you will agree we have a right to do in our effort, and what do we get from you?

Unctuous words, but unclean hands.

Now, I ask: Is this fair? Is it playing the game, gentlemen?

You are here to-night to discuss the question of the suppression of quackery, but it seems to me you have chosen the wrong topic. Your question should be the suppression of the *physician* in his *aid* of quackery.

Tuberculosis Exhibitions.—The past year was remarkable for the interest taken by the public in the subject of tuberculosis. This interest was due largely to the agency of the tuberculosis exhibits given in many cities. Numbers of people, for the first time, have had brought home to them, in a manner easy of comprehension, what this disease really is. These exhibits have shown to the public in a popular way what has been known to the profession for only a few years. Lectures, diagrams, photographs and models of sanatoriums, tents, etc., all have been used in impressing on the people the fact that tuberculosis is a communicable and preventable disease. As the *Journal of the Outdoor Life* says, the whole subject has been so dealt with as to make the laity clearly appreciate that the effort now being made to stamp out the disease is worth while.

STUDY OF TROPICAL DISEASES IN THE PHILIPPINE ISLANDS.

P. M. ASHBURN, M.D.
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CHARLES F. CRAIG, M.D.
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During the last quarter the following research work has been accomplished along special lines of investigation:

A. DEVELOPMENT OF FILARIA PHILIPPINENSIS IN THE MOSQUITO.

Although we have not yet completed our work on this parasite and are not prepared to make a full report on the subject, which we hope to do later, we have, nevertheless, devoted considerable study to the subject since our last report and have demonstrated the following facts:

a. *Filaria philippinensis* undergoes a stage of development in the body of *Culex fatigans.*

b. This mosquito, in drawing blood from the infected patient, manages in some way to get about 40, 50 or more times as many filariæ as are found in an equal amount of blood obtained by a needle puncture.

c. A proportion of the mosquitoes thus infecting themselves seem to succumb to the infection; two of them that we have seen seem to have died acutely of rupture of the stomach, the blood that they had ingested escaping from the stomach and diffusing through the body and legs of the mosquito, coloring them red. A much larger proportion die later without this "hemorrhage."

d. Among the surviving mosquitoes there are many in which the filariæ do not develop, as they appear to be digested or to escape from the mosquito's stomach into the general body cavity, and there die and become absorbed.

e. The very great majority of the filariæ are dead by the third day after their ingestion by the mosquito. With one exception we have found but two developing filariæ after the third day, one in the six day stage of development, the other in the eleven day stage. In the exception noted we found 51 filariæ in the thorax of a mosquito at the end of eight days, in slightly varying stages of development.

f. Additional evidence of the conclusions we stated in our former communication concerning this parasite is furnished by three more patients sent to us by Contract Surgeon Albert L. Miller, U. S. Army, making five in all, four of them having been sent by Dr. Miller. All of the later cases show the correctness of our general statements based on the observation of the first case. The scarcity of the parasites in the blood and the lack of periodicity manifested by them is well shown in the accompanying table (see next page), giving examinations made in three cases, at regular periods during twenty-four hours.

B. MORPHOLOGY OF DEVELOPMENT OF FILARIA PHILIPPINENSIS IN THE MOSQUITO.

After losing its sheath and penetrating the stomach wall of the mosquito, the parasite passes into the body cavity of the insect, where it is seen at first in a practically unchanged condition. By the third day, perhaps before, the parasite has worked its way forward into the thorax, where it is found shortened to less than two-thirds of its former length, but thickened. The tip of

the tail, i. e., the part posterior to the sudden offset we described in the worm as seen in the blood, takes no part in this change but remains as a "pigtail" like attachment to the large, plump body. The transition of the posterior V spot into the anus is very plainly visible. The anterior V spot apparently, and the central spiral viscus certainly, have disappeared. The measurements at this stage are: length, .210 mm. width, .010 mm.

By the sixth day the worm has still further thickened to .020 mm., being still much shorter than when it is in the blood; the "pigtail" is still present; the posterior V spot has now disappeared and an anus occupies its place; pressure will force part of the body contents out through the anus.

By the eighth day the worm has increased in length and become still thicker, the "pigtail" has almost disappeared, and an intestinal canal can be traced from the mouth to the anus; length, .500 mm., width, .035 mm. On the eleventh day the worm has increased in length to 1.24 mm. and in breadth to .040 mm. It is more actively motile and shows an alimentary canal clearly outlined from mouth to anus; the anus is well marked, the "pigtail" portion of the tail has disappeared, and the tail is blunt and tipped by two papillæ. No striation is visible. The head is truncated and the margin of the covering (prepuce) is very faintly serrated, no lips being visible. The worm is still within the thoracic muscles of the mosquito.

TABLE OF BLOOD EXAMINATIONS.

CASE 1.

7 a. m., 3 filariæ in three blood smears.	Average per day and night.
10 a. m., 2 filariæ in three blood smears.	
1 p. m., 2 filariæ in three blood smears.	7 a. m. to 7 p. m.
4 p. m., 1 filaria in three blood smears.	8 filariæ in 12 smears.
7 p. m., 2 filariæ in three blood smears.	7 p. m. to 7 a. m.
10 p. m., 1 filaria in three blood smears.	8 filariæ in 13 smears.
1 a. m., 3 filariæ in four blood smears.	
4 a. m., 2 filariæ in three blood smears.	

CASE 2.

7 a. m., 5 filariæ in three blood smears.	Average per day and night.
10 a. m., 1 filaria in four blood smears.	
1 p. m., 1 filaria in three blood smears.	7 a. m. to 7 p. m.
4 p. m., 1 filaria in three blood smears.	8 filariæ in 13 smears.
7 p. m., 2 filariæ in three blood smears.	7 p. m. to 7 a. m.
10 p. m., 3 filariæ in three blood smears.	8 filariæ in 13 smears.
1 a. m., 0 filaria in three blood smears.	
4 a. m., 3 filariæ in four blood smears.	

CASE 3.

7 a. m., 2 filariæ in three blood smears.	Average per day and night.
10 a. m., 1 filaria in four blood smears.	
1 p. m., 3 filariæ in three blood smears.	7 a. m. to 7 p. m.
4 p. m., 2 filariæ in three blood smears.	8 filariæ in 13 smears.
7 p. m., 4 filariæ in three blood smears.	7 p. m. to 7 a. m.
10 p. m., 0 filaria in three blood smears.	10 filariæ in 13 smears.
1 a. m., 5 filariæ in four blood smears.	
4 a. m., 1 filaria in three blood smears.	

The day and night averages in the three cases are:

7 a. m. to 7 p. m., 24 filariæ in 39 smears.
7 p. m. to 7 a. m., 26 filariæ in 39 smears.

Photomicrographs of the developmental cycle in the mosquito have been secured, and as soon as we have worked out as fully as possible the life cycle of this parasite we hope to forward and publish a more complete report, but owing to the large mortality among the infected mosquitoes we can not form an estimate as to the time that the research may involve. At present we believe that the life cycle of *Filaria philippinensis* will be found to resemble closely that of *Filaria bancrofti*.

C. DIAGNOSIS OF CHOLERA.

In examining postmortem material from cholera cases and stools from living cholera patients here and at Fort McKinley we have been impressed with the great liability to error under which a man would labor if he relied too much on laboratory methods in making early diagnoses in cholera cases. Pure cultures, or even approximately pure cultures of the cholera vibrio are not easily obtained from the stools, and a preponderance of the vibrios in the stool such as to give the appearance microscopically of a pure culture we have seen in but one case.

The cholera red reaction we have obtained but once. This led us to inquire at the Bureau of Science as to the results usually obtained there, and we were informed by Dr. Edwards, the pathologist engaged in that work, that he very seldom gets the reaction in cultures made from the stools, but could usually get it in pure cultures if he used a special peptone (Grubler's "Adamkewitz"), but usually encountered failure if other peptones, including Wittes', were used.

D. OBSERVATIONS ON THE ETIOLOGY OF DENGUE FEVER.

The occurrence of an extensive epidemic of dengue fever at Fort William McKinley, Rizal, has afforded us the opportunity of investigating the etiology of this interesting and puzzling disease. Although many investigators have endeavored to discover the etiologic factor in the production of this disease, and many organisms, from bacteria to protozoa, have been announced from time to time as the veritable cause of dengue, none of them has been generally accepted as such. In beginning our work on the subject we at first spent many hours in the examination of the blood, using both fresh and stained specimens, and were forced to conclude that no demonstrable organism can be found in this fluid; blood cultures were then resorted to, the blood being drawn from a vein of the arm under strict aseptic precautions, and in this way many cases were examined; as a result of our work along this line we were forced to conclude that no organism was found constantly enough in these cultures to warrant us in regarding it as having an etiologic relationship to the disease. Some of the cultures remained sterile, although kept for weeks, but the majority of the cultures became infected by organisms which were obviously contaminations and of no etiologic significance.

Having thus failed to demonstrate any organism in either fresh or stained specimens of blood or in our blood cultures, we directed our attention to the possibility of producing the disease by the inoculation of blood from a dengue patient into the healthy man; fortunately for the success of our work we were dealing with a disease which is not dangerous to life, and for this reason felt justified in making such experiments.

Four members of the hospital corps serving here volunteered, and in all of them we succeeded eventually in producing dengue by the intravenous inoculation of blood from cases of dengue; in three of them by the inoculation of unfiltered blood, and in one of them by the inoculation of filtered blood. We desire to express our admiration of the courage and devotion to duty of these men, who, having no prospect of pecuniary reward, cheerfully placed themselves in our hands for experimentation. As more volunteers were needed, and as no more hospital corps men were available, we visited the commanding general of the Philippines division and requested that we be permitted to ask for volunteers from the line of the army. The commanding general suggested that a reward should be offered for volunteering and authorized us to offer $25 in gold for each volunteer, including those on whom we had experimented, as well as the privilege of having his name placed upon a list for favorable consideration in the assignment of station and details. This offer was transmitted to the

commanding officers of troops in and about Manila and as the result of it we have secured many more volunteers than we need, and have therefore had to refuse a large number. Thus we have been enabled to continue our researches regarding the etiology of dengue, and as soon as they are completed, we will submit a detailed report of the results obtained.

CONCLUSION.

From the work which has already been accomplished, and that which we have in view, we hope to be able to demonstrate the following concerning the etiology of dengue fever:

1. That the cause of dengue is present in the blood of the infected individual, as the intravenous inoculation of healthy men with blood from a patient suffering from dengue is followed by a typical attack of the disease.

2. That the organism causing the disease is probably ultramicroscopic in size, as the inoculation of infected blood into healthy men after it has been passed through a filter which retains the smallest known organism, produces a typical attack of dengue.

3. That the incubation period is four days whether filtered or unfiltered blood be used in inoculation.

4. That the disease is not contagious.

5. That dengue is transmitted by at least one species of mosquito (*Culex fatigans*), as proven by experiment.

Clinical Notes

ANGUILLULA ACETI (VINEGAR EEL) IN THE URINE.

L. NAPOLEON BOSTON, A.M., M.D.

Adjunct Professor of Medicine, Medico-Chirurgical College; Physician to Philadelphia Hospital; and Director Laboratories for Clinical Research, American Hospital for Diseases of the Stomach.

PHILADELPHIA.

It is certainly uncommon for the *Anguillula aceti* to enter the human bladder, yet there is at present sufficient evidence to show that such infection may occur. Stiles and Frankland[1] report the case of a young female in whose urine great numbers of the *Anguillula aceti* were found. These writers obtained the urine by catheterization and in this way proved conclusively that the *A. aceti* came from the bladder. Stiles has given rules for the determination of this nematode, but since the vinegar eel can be readily obtained from cider vinegar for comparative study I have omitted its zoologic characteristics.

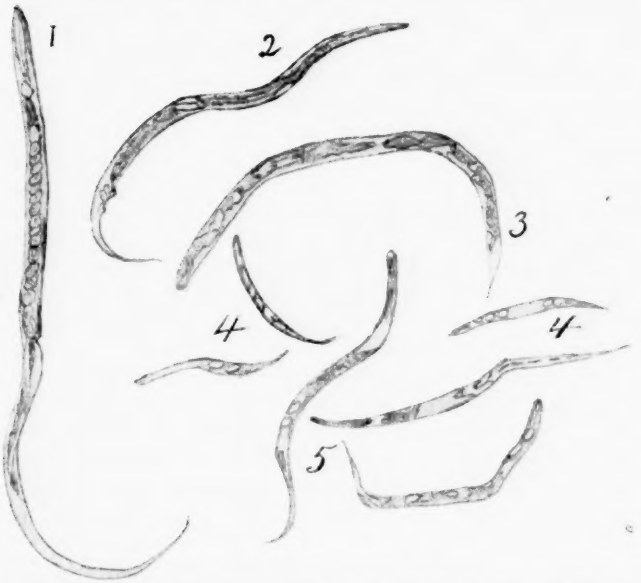
In 1902 Billings and Miller[2] reported their findings of the *A. aceti* in the urine from two patients; one a young female, and in the other the sex is not mentioned. These writers do not state that they obtained the urine by catheterization, which permits of a possible extraneous contamination of such urines, although in one of their cases repeated examinations showed the urine to contain these nematodes. Both patients suffered from acute cystitis and one from hematuria.

Sheiber,[3] in 1880, reported finding repeatedly nematodes in the urine of a woman, but regarded the parasite in question as probably the *A. stercoralis*. His report closely compares with my own observations since the symptoms of cystitis subsided, and the nematodes were absent from the urine after repeatedly washing the bladder. Thayer[4] describes two cases where round worms were found in the urine, but in neither instance were they determined to be the *A. aceti*. Strong[5] has also discussed at length the question of infection of the bladder with round worms. I have reported two instances[6] where hematuria followed infection of the bladder by the *Rhabditis genitalis*.

During the past nine years there have been examined microscopically, by me or my assistants, both at my private laboratory, and at the laboratory of the Medico-Chirurgical Hospital, the Pennsylvania Hospital, and the Philadelphia Hospital over 17,000 specimens of urine. It is interesting to note in this connection that the *A. aceti* was found but twice (once possibly due to external contamination); the other in urine obtained by catheterization from the male bladder. The *Rhabditis genitalis* was also found twice.

Patient.—Mr. K., aged 52, a coachman, born in Ireland,

Symptoms.—He presented the general symptoms of acute cystitis; on the second day of his trouble there was great burning of the urethra, and an almost constant desire to void urine. Constitutional symptoms were absent.



ANGUILLULA ACETI (Vinegar Eel). 1. Mature female. 2. Mature male. 3. Young worm five days after "vinegar mother" was added to acid urine. 4. Young worms present 48 hours after inoculation. 5. Three days after inoculation of urine. (All forms, one to five, may be present in the urine when voided).

Urinalysis.—The physician in charge handed me a specimen of the urine which on examination gave the following: Color, brownish-yellow; specific gravity 1.020; reaction acid (strongly); albumin and sugar absent; developed on standing, a rather heavy precipitate which formed at the bottom of the liquid.

Microscopically, the sediment showed, in each drop, many specimens of the *A. aceti* which are best described by the accompanying illustration; it also contained many large and small epithelial cells, many leucocytes, few red blood cells, shreds of mucus, and much granular débris. In striking contrast with the microscopic findings of normal urine there was an absence of amorphous urates, and crystalline substances.

In order to avoid possible error that might arise from contamination of the urine after it had been voided, the patient was catheterized at three different times and in the urine thus obtained the *A. aceti* was found.

1. U. S. Bureau of Animal Industry, Bull. 35, p. 35.
2. Amer. Med., May 31, 1902, p. 903.
3. Virchow's Archiv., 1880.
4. Jour. of Exper. Med., Nov. 29, 1901.
5. Johns Hopkins Hosp. Rep., x.
6. Amer. Med., Jan. 3, 1903, 20.

The symptoms of cystitis ameliorated decidedly after washing the bladder with a solution of boracic acid, and after three daily applications of this treatment it was impossible to detect the *A. aceti* in the urine.

At the suggestion of my assistant, Dr. J. Hamilton Small, I obtained a specimen of urine from this patient's wife and to my surprise found it to contain the *A. aceti.* On questioning Mrs. K., I learned that she had been using vaginal injections, to each of which she had added a small quantity of vinegar, with the object of preventing conception. I was not permitted to catheterize Mrs. K., although at this time she too suffered from the symptoms of acute cystitis.

Among the five reported cases of infection of the bladder by the *A. aceti,* four of them presented the symptoms of acute cystitis, and in three hematuria was an early symptom. Albuminuria, when present, was due to an admixture of blood. In all the reports examined the symptoms of cystitis have subsided with the disappearance of the *A. aceti* from the urine, and in all, the course, while acute, was of short duration.

COMPLETE REMOVAL OF FAUCIAL TONSILS.*

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Aside from a broader knowledge of detail that results from a repetition of facts, it would be superfluous on this occasion to give an extended discussion of this subject, but, inasmuch as unanimity of opinion does not obtain throughout the profession as to the proper method of treatment of diseased faucial tonsils and the best mode of their removal, and being desirous of presenting a method which has proven satisfactory in my practice, I wish to direct attention to the following facts.

Owing to their intermediate position between the mouth and pharynx and their glandular structure, the faucial tonsils frequently become infected and chronically diseased by the passage of food or foreign matter into the ramifying glandular ducts which open on their exposed surface, and after a time their function of

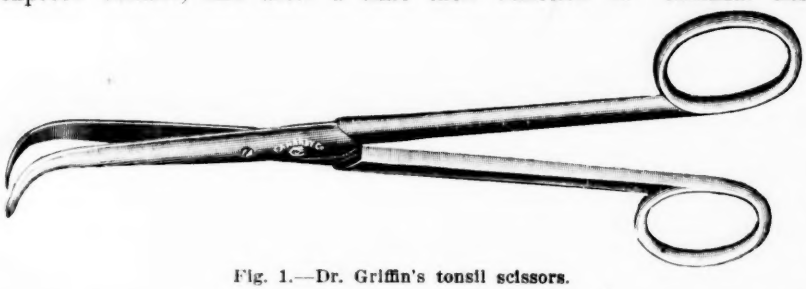

Fig. 1.—Dr. Griffin's tonsil scissors.

pharyngeal lubrication becomes so perverted that the ducts and glands finally become distended and indurated by the retention of a caseated secretion, composed mostly of desquamated epithelium, leucocytes and micro-organisms. The resulting ptomains of decomposition permeate the surrounding lymphatic system, leading to chronic inflammation of adjacent pharyngeal structures and often evidencing its systemic effect by the production of rheumatic symptoms. ,

Under these circumstances it would seem that only one method of treatment would be considered, but a perusal of many books on the subject indicates that palliative measures in the form of gargles, sprays and applications to the distended ducts constitute the rational course of treatment. If there be a broad and devious path that leads to disappointment, both to the patient and attending physician, the above procedure which attacks the disease only superficially, or a partial removal of the tonsils, certainly points the way. On the contrary, however, a total extirpation of the tonsillar tissue offers naught but an ultimate cessation of both local and systemic derangements, and no one more fully appreciates this fact than I who was compelled to undergo operations by three different laryngologists before the tonsils were completely removed and a train of distressing symptoms permanently relieved.

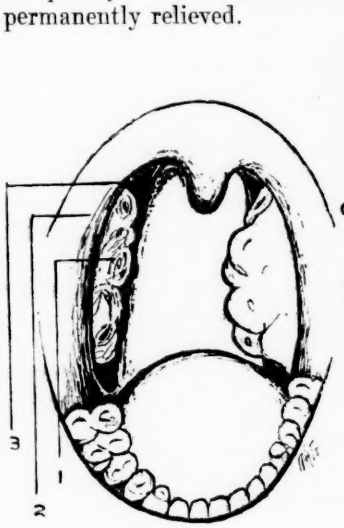

Fig. 2.—Enlarged Lacunar Tonsils.

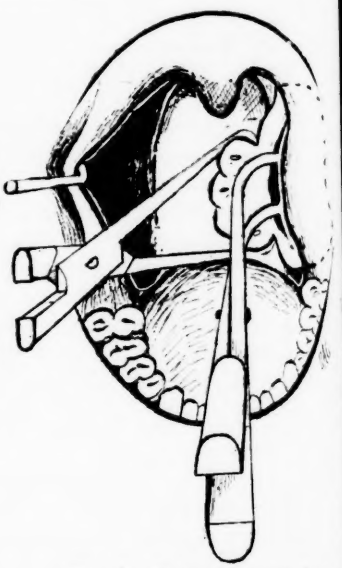

Fig. 3.—Separating anterior pillar.

In common with the experience of fellow-laryngologists, I realized that with the armamentarium which obtained until a few years ago it was impossible to effect a complete operation until an instrument was devised whereby the adherent pillars could be separated from the tonsillar tissue, preliminary to its removal, especially when the tonsils were submerged. Thus it was, and still obtains in the practice of the unskilled, that in a majority of the cases there was a "recurrence" of tonsils, or, as the laity put it, "the tonsils grew in again," while the unfortunate sufferer experienced little or no improvement in his condition. To the informed, however, it is evident that the faucial tonsils do not recur after complete removal, and that the return of former symptoms is due to a retention of some of the originally diseased tissue. How often in advising a removal of tonsils for the correction of a pharyngeal or aural disorder have I witnessed that expression of mingled surprise and disgust as the unfortunate patient replied, "Why, I had my tonsils removed by Dr. Blank and he charged me $10." Thus it was, prior to a few years past, that the operation was regarded by both the laity and general practitioner as a simple procedure which any one could perform, but with improved instrumentation and details of technic the complete removal of tonsils is now justly regarded as a serious and exacting operation which demands as much dexterity and skill as any major procedure to

* Read before the American Academy of Ophthalmology and Oto-laryngology, Aug. 31, 1906.

secure proper results, and the compensation should be accordingly remunerative.

IMPROVEMENT OF TECHNIC.

Realizing the limitations of the knife, tonsillitome, and snare, several years ago, I devised a pair of scissors whereby the pillars could be severed from the tonsil, but even then I could not in all instances completely remove the base of submerged tonsils or the tissue which obliterated the supratonsillar space between the anterior and posterior pillars until I finally produced the present form of scissors (Fig. 1). By means of this device the complete operation of separating the adherent pillars and removing the entire tonsil, either right or left, can be effected by the use of a single cutting instrument, as shown in the illustrations.

Figure 2 pictures a characteristic throat in which the left tonsil is hypertrophied and the ducts distended, while on the opposite side are located the remains of an unskilful operation or the tonsil may represent a submerged variety. It will be observed that the edges of the anterior pillars are darkened (reddened), showing that a chronic form of inflammation exists behind them whereby the pillars become adherent to the tonsillar tissue.

With lightning rapidity, the artist has effected a complete removal of the right tonsils, as evidenced by the deep, empty tonsillar fossa which is more readily shown by a retraction of the anterior pillar (Fig. 3). In the remaining cuts, the details of the procedure are fully illustrated. When traction is applied to an adherent or submerged tonsil, the attached pillars are also drawn toward the median line so that the base of tonsil can not be reached until the pillars are severed from the tonsillar tissue. In Figure 3 the anterior pillar is being separated by means of the scissors, although a curved knife may also be employed, but dense tissue can not be as effectually cut. The dotted line indicates position of base of tonsil to which point the pillar must be loosened.

After the anterior pillar is separated (Fig. 4), the traction forceps are changed so that the tonsil is drawn forward and outward, when the posterior pillar is easily severed (Fig. 5).

After both anterior and posterior pillars are separated as illustrated in Figure 6, the opposite angle of the mouth is retracted by an assistant and the tonsil is strongly drawn from its fossa toward the median line, while the scissors are introduced into the supratonsillar space and pushed in deeply so as to reach the base of the tonsil before beginning to cut. In this manner the cavity will be left smooth and clean. The incision is continued downward until the whole base of tonsil is separated. In some instances matters may be facilitated by reversing the scissors and cutting upward from the bottom after the supratonsillar attachment is separated, or they may be introduced from the front and the pillars pushed away by the flat surface of the scissors, while the curved portion is forced deeply into the tonsillar fossa to reach the base of tonsil and complete the operation. In many cases, owing to gagging movements of the patient, it may be necessary to remove the tonsil in several pieces, but in favorable instances the whole mass can be separated at once.

In regard to the occurrence of hemorrhage, it has been my experience that the bleeding from a complete removal of the tonsils is not more profuse than when a partial extirpation is effected, inasmuch as the remaining soft tissues are favorable to a prompt contraction and retraction of the severed blood vessels, while an indurated mass which often remains after a partial removal tends to prevent a closure of the vessels and thus favors prolonged hemorrhage.

While my scissors were devised primarily as a tonsil instrument, I have found them admirably adapted for enucleation of the eye, evisceration of the orbit and separating adhesions of the palate and uvula to the pharynx.

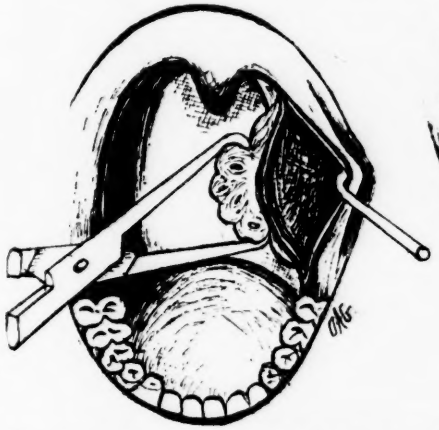

Fig. 4.—Anterior pillar separated and retracted.

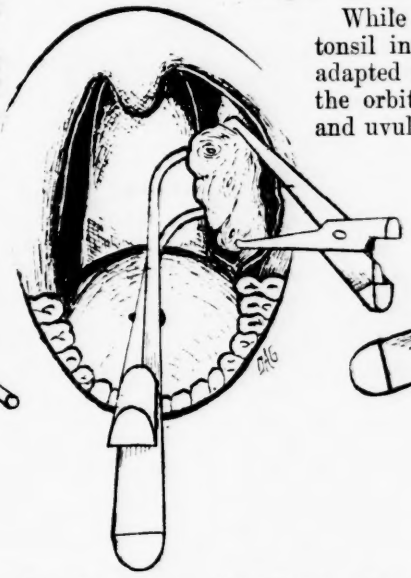

Fig. 5.—Separating posterior pillar.

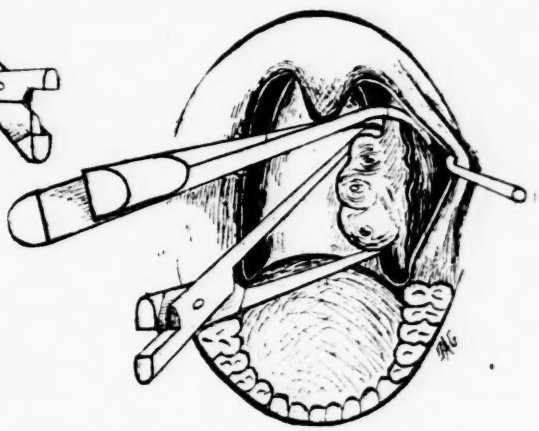

Fig. 6.—Removing left tonsil.

COCAIN CATAPHORESIS IN SURGERY.

D. T. QUIGLEY, M.D.
NORTH PLATTE, NEB.

General anesthesia is dangerous and should be avoided in every case possible. Not only the immediate effects, the chance of sudden death, but the after effects on the kidneys, heart, etc., must be carefully considered by the surgeon who has the best interests of his patients at heart. The subject of local anesthesia in surgery is much neglected by those who make a specialty of the art.

I believe that nearly half the operations performed could be done with my method of cocain cataphoresis and with much greater safety and less worry to both physician and patient. I have used the method for removal of tumors of the breast, removal of lip for cancer, and in operations for hernia, hemorrhoids, birthmarks, moles, and epithelioma. In fact, it may be used for any operation that does not involve the great cavities of the body or the hollow organs or when the part to be operated on is not too far from the surface to be reached by the cocain.

TECHNIC.

A piece of aseptic gauze, folded four times, is cut the size of the part to be anesthetized, and is laid on the skin, which has previously been made sterile. The gauze is then saturated with the following aseptic solution:

Cocain hydrochlorate	3iss
Adnephrin or adrenalin sol. (1-1000)	3ii
Sterile water q. s.	3ii

The adrenalin in the mixture closes the small blood vessels and makes the operation nearly bloodless. The secondary hemorrhage which is reported to follow the use of adrenalin or adnephrin only occurs in about one case in four, and then it usually comes on after all the stitches are in. If the edges of the wound are properly sewed both below the skin and in the skin itself, very little blood will escape, and in no case have I seen healing delayed by the use of any suprarenal extract or cocain, or by the combination of the two.

The gauze saturated with the cocain-adnephrin mixture is covered with metal foil and connected with the positive pole of the battery. The circuit may be completed by the patient holding in his hand a wet sponge electrode connected with the negative pole, or better still, a large pad electrode may be used as the negative pole and attached by a bandage to the skin near the part to be operated on. If on a limb, for instance, it may be attached on the opposite side from the positive pole and both may be held in place by the same bandage. This makes the body circuit shorter and lessens the resistance. If this is done, however, care must be taken to see that the skin is perfectly dry between the two wet poles on both sides, otherwise the current will follow the wet surface and will not go through the skin at all.

The time required is from 15 to 30 minutes, and may be longer if necessary for deep effect, as in my experience with this method no effect whatever has been observed from the absorption of cocain, even with the strongest solutions long continued. It may be that the adrenalin causes the absorption to go on so slowly that no systemic effect is manifest, or it may be that the amount of cocain that penetrates the skin is too small to cause any noticeable symptoms. At any rate, no general symptoms occur. The phenomena manifested are entirely local.

A battery of 20 or 30 wet or dry cells should be used, connected in series. A rheostat to control the current is useful, but not absolutely necessary, as the current may be controlled in the absence of a rheostat by taking out or adding cells to the battery. The current should be as strong as the patient can stand without discomfort, and as he can always tell whether the current is running or not, a milliamperemeter is unnecessary, as any break in the circuit will be detected at once by him.

After the current is turned on the edge of the foil-covered gauze should be turned back about every five minutes and fresh solution applied as in order to get the best effect the gauze ought to be kept well saturated.

TECHNIC ILLUSTRATED.

In using this method for hemorrhoids the gauze should be used over a cone-shaped metal electrode which should be large enough to have a dilating effect on the sphincter when pressed against the anus. This electrode should have a wooden or hard rubber handle and should be pressed firmly into the anus by an assistant. The sphincter will be considerably relaxed and the hemorrhoidal area anemic and deadened in from 20 to 30 minutes. If the hemorrhoids are large and pendulous the base of the tumor may be grasped gently between the blades of the forceps, each blade being wrapped with the gauze and the gauze saturated with the cocain solution. The handle of the forceps is then attached to the positive pole and the circuit completed, and in a few minutes the tumor can be cut off without pain.

In birthmarks the area should be anesthetized by the above method, then the mark is stuck full of straight needles run just below the surface, and about one thirty-second of an inch apart, a fine wire is threaded through the eyes of the needles and attached to the negative pole. The current is allowed to run until the spaces between the needles look cooked and white. This destroys the birthmark and does not leave a scar.

If moles are to be destroyed in this way any large coarse hairs growing in them must first be destroyed by the electric needle attached to the negative pole. For the benefit of those who may not know how to tell the positive from the negative pole, I will say that all that is necessary is to dip the ends of the battery cords in a glass of water. A large amount of hydrogen will come off at the negative pole and a small amount of oxygen at the positive pole.

This method of local anesthesia is preferable to the Schleich infiltration method because it is painless, introduces no volume of foreign material beneath the skin, covers a wide area if necessary and is without danger of the systemic effect which one sometimes gets with even the most careful use of the infiltration method. The anesthesia lasts over an hour, so that there is plenty of time to give the area operated on a second cleaning after the anesthesia is complete and before beginning the operation, which goes a long way toward producing an ideal septic result.

Every hospital ought to be equipped for this kind of work and surgeons should use it whenever possible instead of general anesthesia.

OPEN-AIR COUCH FOR INVALIDS.

J. MADISON TAYLOR, M.D.
PHILADELPHIA.

Many diseased conditions, acute as well as chronic, are being treated by an extended life in the open air. The usual form of couch is the steamer chair or hammock. No matter how much protection is used on them in the way of blankets, rugs, etc., the air circulates too freely under as well as over the patient. In cold weather the chill of this double exposure is excessive. I offer a

Open-air couch, simple wood frame boxed in, partly or wholly, with or without handles, detachable or hinged; openings under legs and feet to introduce hot bricks or hot water cans in extreme cold weather; opening in rear to hold extra wraps and various articles. Head rest may be adjustable or boxed in for warmth. Slight elevation (removable) under knees to prevent sliding forward; top, on which patient lies, may be made of canvas stretched across, cheaper than a mattress.

device which is comfortable, light, portable, cheap and does not permit the cold air to circulate under so freely. It can be artificially heated if necessary. Various modifications and improvements will suggest themselves.

False Doctorin'.—An ancient villager, during an illness, refused to see a doctor, relying instead on a certain quack medicine. The vicar urged on the man's wife that the conduct was almost equivalent to suicide.

"Yes, sir," replied the wife; "I know it; and many a time I have prayed against it in the church service."

"I don't quite follow you," remarked the clergyman; "are you talking about the prayers for the sick?"

"O, no, sir; I mean when we say in the litany, 'From all false doctorin', good Lord deliver us.'"—*Saint James' Gazette.*

New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 611.*)

(*A list of all accepted articles is published on one of the advertising pages of The Journal in the first issue of each month.*)

RED BONE MARROW.

Red bone marrow is a glycerin extract of the red marrow of bones; it contains about 2 per cent. of proteids and about 85 per cent. of glycerin.

It is a brownish liquid of an agreeable aromatic taste.

Actions and Uses.—The value of this preparation is believed to depend on a power to stimulate the formation of the red blood corpuscles.

It is recommended in simple and pernicious anemia.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) in water, milk or wine, three times a day.

Prepared by Armour & Co., Chicago.

SAJODIN.

MONOIODOBEHENATE OF CALCIUM.

Sajodin, $(C_{21}H_{42}ICOO)_2Ca$, is the calcium salt of monoiodobehenic acid.

It is prepared from erucic acid, $C_{22}H_{42}O_2$, by addition of hydrogen iodide, forming monoidobehenic acid. $C_{22}H_{43}O_2I$. This is converted into the calcium salt.

Sajodin is a colorless, odorless and tasteless powder, insoluble in water. On heating it generates an abundance of iodine vapor; on exposure to light the superficial portion becomes yellow without material decomposition.

It should contain 26 per cent. of iodine and 4.1 per cent. of calcium.

Actions and Uses.—Although containing a smaller quantity of iodine than potassium iodide, sajodin is claimed to be equally efficient. It is said to have been proven exceptionally free from the unpleasant and deleterious by-effects of the iodides.

It is used for the same purposes as potassium iodide.

Dosage.—1 to 3 Gm. (15 to 45 grains) daily.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany, and Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Continental Color & Chemical Co., New York). Patent and trademark pending.

SANTYL.

SALICYLIC ESTER OF SANTOL. SANTALOLIS SALICYLAS.

Santyl, $C_6H_4OH.COO(C_{15}H_{23}) = C_{22}H_{28}O_3$, is the salicylic acid ester of santalol.

According to the German patent the neutral esters of sandalwood oil are produced by heating the oil with the respective acid anhydrides and subsequent purification of the product.

Santyl is a yellowish oil with only a faint balsamic odor and taste; specific gravity 1.07 at 15° C. (59° F.); it boils under 20 mm. pressure at 121° C. (250° F.) to 126.6° C. (260° F.) with partial decomposition; insoluble in water, but soluble in about 10 parts of alcohol.

It is incompatible with alkalies and with the usual incompatibles of sandalwood oil and of salicylates.

Santyl should possess the physical constants given above. On saponification with alcoholic sodium hydroxide it should yield approximately 40 per cent. of salicylic acid and 60 per cent. of santalol.

Actions and Uses.—It is said that santyl passes the stomach unchanged, but is slowly split up in the intestines into its constituents, santalol and salicylic acid. Santyl is claimed to have the same actions as sandalwood oil, except that because of the slow liberation of santalol, it produces no irritation of the gastrointestinal tract nor of the kidneys and urinary passages, nor any unpleasant odor or eructations.

It is claimed to be useful like santal oil for gonorrheal urethritis.

Dosage.—1.5 Cc. (24 minims) usually given in three capsules of 0.5 Cc. (8 minims) each, three times a day.

Manufactured by Knoll & Co., Ludwigshafen, a. R., Germany (Knoll & Co., New York). German patent No. 173,240. U. S. patent applied for. U. S. trademark applied for.

SUPRARENALIN.

EPINEPHRIN HYDRATE.

The active alkaloid of suprarenal gland. See Suprarenal Alkaloid.

An organic base is used for the final precipitation.

Suprarenalin is a finely crystalline, light yellow substance, odorless and very slightly bitter. It melts at 205° to 207° C. (401° to 404.6° F.) It is only slightly soluble in cold water or alcohol, but readily soluble in acids and fixed alkalies. It is insoluble in ether.

Actions and Uses.—See Suprarenal Alkaloid.

Dosage.—Locally, 1-1000 to 1-15,000 solution. Internally, 0.3 to 2 Cc. (5 to 30 minims) of the 1-1000 solution every 2 to 3 hours. Hypodermically 1 to 15 drops of 1-1000 solution, diluted with sterile water.

Manufactured by Armour & Co., Chicago. U. S. patent No. 829,220.

SUPRARENAL LIQUID.

LIQUOR SUPRARENALIS (P. D. & CO.).

Suprarenal liquid is an aqueous extract of suprarenal glands, preserved with 0.8 per cent. of chlorbutanol (chloretone). Each Cc. (16 minims) of the solution represents 1 Gm. (15.4 grains) of the fresh glands.

Actions and Uses.—See Suprarenal Alkaloid.

Dosage.—The preparation is used undiluted for spraying, especially for mucous membranes.

Prepared by Parke, Davis & Co., Detroit, Mich.

SUPRARENALIN OINTMENT.

An ointment containing 0.1 per cent. of suprarenalin, dissolved in a petrolatum base.

Actions and Uses.—It is recommended for application to mucous membranes, as the eye or the nose. The action is said to be slower but more lasting than that of the solution.

Prepared by Armour & Co., Chicago.

SUPRARENALIN SOLUTION.

A 1-1000 solution of suprarenalin sulphite in normal saline solution, free from other preservatives.

Dosage.—See Suprarenalin.

Manufactured by Armour & Co., Chicago.

SUPRARENALIN TRITURATES.

Triturates composed of suprarenalin, milk sugar, and boric acid, in such proportion that each 0.03 Gm. (½ grain) triturate dissolved in 15 minims of water, yields a 1:1000 solution.

Actions, Uses and Dosage.—See Suprarenalin.

Prepared by Armour & Co., Chicago.

(*To be continued.*)

Naming of Carbon Compounds.—Form: This is a prefix denoting derivation of formic acid (methanoic acid) HCOOH, thus formaldehyd is HC(:O).H, formamid is HC(:O).NH_2.

—*Pharm. Rev.*, August, 1906.

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[*For other information see second page following reading matter.*]

SATURDAY, FEBRUARY 23, 1907.

THE TREATMENT OF DIABETES WITH EXTRACTS OF THE MUCOSA OF THE DUODENUM.

In a previous editorial on the "hormones" we referred[1] briefly to the substance, "secretin," which Bayliss and Starling found as the specific product of the action of dilute acid on the mucous membrane of the duodenum, the function of which is to stimulate the secretion of pancreatic juice. Its effect on the external secretion of the pancreas is so very striking that the question at once arises: Does secretin have a similar stimulating effect on the internal secretion of the pancreas? In case the answer to this question is affirmative, then we may have in secretin a means of stimulating the impaired glycolytic processes in diabetes, since, according to the observations of Cohnheim, the internal secretion of the pancreas has as its function the activation of the glycolytic enzymes of the liver, muscles and other tissues. If, for purposes of discussion, we assume that secretin does increase the amount of formation of internal secretion by the pancreas, and that glycosuria depends on deficiency of this internal secretion, then we might have three possible causes of defective glycolysis and the resulting glycosuria: First, the duodenum might fail to form secretin; second, the pancreas may be so disordered that normally formed secretin can not stimulate it to an increased formation of its internal secretion; third, the liver and muscles may not contain the glycolytic enzymes which the pancreatic secretion normally activates. Therapeutic administration of secretin, prepared by treating the duodenal mucous membrane of swine or other animals with dilute acids, could have a favorable influence only in case the glycosuria depended on the first of these possible causes; conversely, if favorable results followed administration of secretin to diabetics, we should have grounds for looking for an unsuspected source of defective sugar metabolism, namely, defective formation of secretin by the duodenal mucosa.

The discovery of secretin, therefore, opens up an entirely new field of investigation in connection with diabetes, which has already been entered on by English observers who have been stimulated by the studies of Bayliss and Starling. The results that have been obtained so far are very suggestive, although still too few to be considered as at all conclusive. The first experimental administration of secretin in diabetes is credited by Starling to Spriggs, but the result in the one case reported was negative. Soon after, however, Moore, Edie, and Abram[2] obtained a marked lowering of sugar excretion in three cases of diabetes, although a similar favorable result was not obtained in all the cases in which this treatment was tried; more recently they report a few more positive results.[3] As they are careful to point out, even if secretin does increase the internal secretion of the pancreas, it can not be expected that secretin will have any effect in such cases of diabetes as are associated with marked pancreatic lesions. However, the fact that in a considerable number of cases diabetics are found to respond to the administration of secretin with a decreased elimination of sugar would seem to indicate that possibly it is true that in some instances diabetes may depend on a deficiency in the formation of secretin by the duodenal mucosa; presumably these would be the cases in which the pancreas is found at autopsy to be anatomically normal.

In support of this suggestion is the report of experiments made by Bainbridge and Beddard[4] to determine the formation of secretin in the duodenum of diabetics. These investigators, although unable to obtain favorable clinical results by use of secretin,[5] did demonstrate that in five out of six cases of diabetes little or no secretin could be obtained from extracts of the duodenum, although the duodenum of individuals dying from other diseases always yielded secretin. It is of importance that in all the six cases studied in this way the pancreas was found structurally normal. This observation is highly suggestive, since it offers a new and plausible explanation for those instances of diabetes in which the pancreas has been found normal at autopsy. It is also particularly interesting in that a new possibility for a successful therapy for certain cases of diabetes offers itself. Of course, even if absence of secretin is found to be the etiologic factor in the type of cases specified, it can not be hoped that secretin administration will have any considerable influence in those cases that depend on severe anatomic changes in the pancreas. We may also note that the secretin hypothesis throws absolutely no light on the problem of the importance or non-importance of the islands of Langerhans in the etiology of diabetes, for it is perfectly possible that secretin stimulates both parenchyma and island cells alike. It may be well, in closing, to emphasize the fact that these observations must be looked on as only the first preliminary gropings into a new field of research, and that we must await their further development and corroboration before entering on systems of treatment or hypotheses as to the etiology of human diabetes.

1. THE JOURNAL A. M. A., Feb. 9, 1907, p. 524.

2. Biochem. Jour., 1906, I, 28.
3. Ibid., 1906, I, 446.
4. Biochem. Jour., 1906, I, 429.
5. Foster recently reported similar unsuccessful results from the use of secretin in diabetes, while Dakin and Ransom obtained a transitory lowering of the sugar excretion in one case. Jour. of Biol. Chem., 1907, II, 297.

THE FACTORS OF SAFETY.

The lectures given under the auspices of the Harvey Society constitute a notable series. This unique society is proving itself a most useful agency for the purpose of popularizing in the proper sphere the ideas and the knowledge of productive workers in various departments of scientific medicine. On account of its general interest the lecture by Dr. Meltzer[1] on "The Factors of Safety in Animal Structure and Animal Economy" merits special notice. The subject is in certain ways a novel one, and the distinguished lecturer deserves congratulation, not only for the originality of the choice of his subject but also on the highly successful manner of its presentation. The wonderful capacity of the animal body to adapt itself to various changes of structure and condition, internal as well as external, has formed the theme of many addresses and receives more or less attention in connection with discussions of diverse pathologic processes, more particularly the reparative and inflammatory, but if we mistake not the question whether or not the animal machine is provided with factors of safety in the large sense that this term is used by Meltzer has received little or practically no systematic consideration from the physiologic point of view.

Meltzer passes in review numerous organs and complex tissues, nearly all of which he finds are provided with apparently large margins of safety, over and above the maximum required by the normal activity. This is brought out in an especially striking manner in the case of the reproductive organs. In the central nervous system, however, the amount of tissue presiding over functions of vital importance is comparatively scanty, this tissue being, however, exceptionally well protected against injury on the one hand and against lack of blood on the other. It is pointed out, furthermore, that the potential energy of many organs, e. g., the heart, far exceeds the needs of normal life; that in the case of many functions the mechanisms necessary are doubled and even trebled; that the function of one organ may be assisted by other organs; and that living tissue is provided with a most important factor of safety which is peculiar only to living things, namely, the mechanism of self-repair. The only exception of note to the last statement is found in the higher tissue of the central nervous system, the nerve cells possessing but insignificant power of reproduction.

Finally, as regards the supply of food and of energy, Meltzer also shows that abundance, even affluence, appears to be a prominent feature. To the question raised in the beginning of his lecture, "are the structures and functions of the living body provided with factors of safety?" we see that Meltzer is able without difficulty to give a positive, affirmative answer. That these factors of safety promote the integrity of life, the perpetuation of species, and have an important bearing on the process of natural selection needs no emphasis.

Meltzer's valuable lecture contains much food for thought. Thus the somewhat exceptional status of the central nervous system as compared with other organs from the standpoint of factors of safety presents a puzzling problem, satisfactory solution of which now appears beyond our reach.

1. Page 655 this issue.

SENSATIONALISM AND CRIMINAL SUGGESTION.

There has been no little discussion in the last few days as to the advisability of printing the details of criminal trials; marked differences of opinion have arisen as to whether such publication is likely to do good or harm. A distinguished body of clergymen went so far as to announce publicly that they thought the detailed publication of the proceedings of a recent notorious murder trial were apt to be beneficial rather than harmful to the community, because they taught the lesson that "the wages of sin is death." The old idea that ignorance means innocence—an idea so long harbored by many well-meaning persons—is doubtless responsible for not a little evil. When young folks are kept too sedulously from knowledge which they must have some time or other, and which will come to them pruriently, if not given directly and candidly, the result is sure to be harmful. Whether or not this important principle applies to such information as is obtained from the sensational details of a murder trial involving the worst kind of sexual problems, however, is extremely doubtful.

What must be remembered particularly in this discussion, and what is most likely to fail of appreciation by any but physicians who have been particularly interested in psychic manifestations, is the power of suggestion to familiarize minds of minor resisting power with evil and perhaps to lead them to the commission of it, while the lack of such suggestion would have left them free to follow their own devices. It might be thought, for instance, that the publication of the details of suicides would tend to lead others who have thoughts of self-destruction to avoid such emotional strains and distressing circumstances as might predispose them to it. On the contrary, we know that the reports of suicides constantly suggest to other persons who lack mental stability to go and do likewise. If some special form of self murder be indulged in and its features are exploited by the newspapers similar cases are practically always reported from other parts of the country during the course of the next few weeks. This is particularly true with regard to the double crimes of murder and suicide that have become so frequent in recent years.

With regard to other crimes besides murder and suicide the power of suggestion is likely to be even stronger. There is a natural abhorrence from the taking of human life that represents society's strongest safeguard against such fatal incidents. On the other hand, there is a morbid tendency for most of the sexual crimes, especially in individuals of abnormal mentality, that makes read-

ing about them and the consequent increased familiarity with them an impelling motive toward actual experience. This is the side of human nature that is particularly likely to be affected by detailed reports of sensational trials. If all men were perfectly normal then the lesson of such stories would be read aright and the moral effect would be rather for good than for evil. As it is, a very large proportion of the community can not be considered quite normal. It is especially these more or less morbid persons, however, who have a special pathologic curiosity that tempts them to luxuriate in details of criminal proceedings. It is this which brings so many of them, even though they are women, and the ordinary feelings of shame might be expected to deter them, into the publicity of a court room in order to indulge their morbid feelings.

In a word, besides the younger people who have not enough experience to guide them to what may or may not be good for them to read, we have always with us a large number of "children of a larger growth," who will never be quite grown-ups in the sense of stability of character and rectitude of purpose, who must be protected from the morbid suggestion which comes to them from a sensational press. It is this side of the present discussion that physicians, better than any others, can appreciate, and all the weight of their influence should be thrown into the scale to save people from evils that are quite as sure to do them harm as would be contact with contagious disease or insanitary surroundings.

FROM EXORCISM TO PERSUASION.

Some form of psychotherapy has undoubtedly been in use since the beginning of the race. The priest-doctor, when dealing with a mind diseased, would try first exorcism, hoping thus to expel the devil or demon that was possessing the patient. Failing in this he would employ some such pharmacotherapy as the administration of asafetida; and the prognosis was indeed bad when an evil spirit could remain in a body saturated with this substance.

The thoroughly scientific Hippocrates appreciated and no doubt experienced the value of suggestion. In the middle ages Paracelsus, "who was not altogether a quack," employed "magnetic healing." Mesmer, a century ago, was able to convince the most brilliant and intellectual minds in Europe of his powers. Then came animal magnetism, the assumptions made for the theosophy of Madame Blavatsky, spiritualism, Dowieism and Eddyism as curative agencies. So that to-day hundreds of "faith cures," "mind cures," mental healing and the like infest our civilization.

Nevertheless, these charlatanries have had their uses, in that they have attracted the attention of wise and honest men to such study of mental processes as might lead to the formulation of a rational psychotherapeusis. Thus the labors of Beard, Myers, Charcot and their colleagues evolved hypnotism. It was presently found, however, that this might prove a dangerous agency in the hands of the incompetent or of the unscrupulous; by its means another psychosis might be substituted for that which it was sought to dissipate.

The superb "psychoanalytic" of Janet and the labors of such men as Dubois and Jastrow followed, so that suggestion, by which we seek to influence the subconscious mind, is now much in vogue as a psychotherapeutic measure. In contradistinction to this is the method of "education, explanation and persuasion," which Barker[1] has advocated and used with success.

It appears to Dr. Barker that the main difference between suggestion and persuasion lies in their relation to the higher psychic functions. In suggestion these higher functions are either not utilized or they are inhibited (the suppression and substitution of Janet). In persuasion, on the other hand, they are called into action, the mind being won over by the presentation of suitable reasons and not "by the exertion of authority, force or fear."

Which of these methods is correct? In the present transitional state of our knowledge and experience, the scientific physician must judge. The psychotherapy must be as varied as the variety of cases to which it is applicable. For one individual persuasion may be appropriate, for another suggestion; there are cases in which even hypnotism may have to be induced.

Psychotherapy is applicable in hysteria with its most varied and protean manifestations; in psychasthenia and neurasthenia; when there is psychic incompleteness or physiologic insufficiency; for the obsessed (or the possessed, as Barker would prefer to term them); in nervous crises; in such gastropathies as anorexia and "nervous dyspepsia;" in insomnia; in psychoneuroses and in all abnormal states of a functional sort which have not as a basis organic or structural lesions. Even with regard to the latter, however, we may often combat functional disturbances associated with organic diseases, such as tabes and heart and lung affections.

A very essential preliminary to a rational psychotherapeusis is an exhaustive diagnosis. It is worse than absurd to try to dissipate, by suggestion or persuasion, a headache which is dependent on an insufficient eye muscle, a nasal spur, or an inflamed sphenoid; or a pain in the chest which is due to an incipient tuberculosis; or one in the pelvis which has for its origin a lesion which only the surgeon can remedy by operation.

TO ABOLISH SMALLPOX QUARANTINE.

The resolution[2] of the Minnesota State Board of Health not to use quarantine after Jan. 1, 1908, in the attempt to control smallpox has the aspect of an extreme

1. Barker: Experience with the Simpler Methods of Psychotherapy and Re-education, Amer. Jour. Med. Sci., October, 1906.
2. Minnesota news, this issue, page 705.

measure. The idea of not quarantining smallpox patients will naturally come as rather a shock to the average layman, and it is surprising that the proposition absolutely to do away with this precaution (after a certain date when the public comes to realize its meaning) has caused so little stir and comment. To any medical man who considers the subject, however, it is self-evident that quarantine ought to be unnecessary. An accidental case of smallpox should have no terrors for a well-vaccinated community. It should be no more serious in its consequences than the half dozen other diseases that are about equally contagious and which no one dreads. The experience of certain well-vaccinated people, those of Prussia, for example, shows that even the mildest cases of varioloid are practically unknown if the one reasonable precaution is taken. The abolition of strict quarantine does not necessarily mean that there should be no notification or placarding of infected places. The public should have fair warning, as heretofore, but the restrictions in personal liberty should be done away with. We presume some such course will be followed in Minnesota next year when the rule goes into effect. The recent activity of health boards in various parts of the country has stirred up opposition and the antivaccinationists are at present unduly active. There is even danger that wholesome vaccination regulations will be repealed in some sections, and bills have even been introduced in one legislature making the demand for a vaccination certificate a crime. It is not that the antivaccinationists are not afraid of smallpox, but they seem to be more afraid of vaccination. As it is, health officials are seriously embarrassed and smallpox spreads. The abolition of legal quarantine would put the public more on its guard and lay the responsibility on the antivaccinationists. The public might come to demand general vaccination more urgently if it felt that to be the only real protection, being no longer able to trust in the inefficient and deceptive quarantine method. This, we take it, is the view taken by the Minnesota board. It sees no use in trying to check smallpox by quarantine if vaccination can not be generally enforced. There is much justice in this view. If we are not allowed to protect innocent children by the one sure method that has stood the test of a hundred years, we can not protect them any other way. The common claim of the antivaccinationists is that smallpox is a filth disease controllable by general sanitation and cleanliness. We would be glad to see cleanliness enforced among the antivaccinationists themselves, but its impracticability is self evident. Even if it were not so, a trust in it on their part would be an admirable object lesson so far as smallpox is concerned when compared with vaccination. No state in this country grants health boards the powers they would require to stamp out filth diseases absolutely, and smallpox is not really one of that type. The Minnesota board's resolution has much to be said in its favor and it will be interesting to observe its effects.

CONSENT TO OPERATION.

The decision[1] of the Supreme Court in the case of Pratt vs. Davis emphasizes the necessity of surgeons having a clear understanding of their legal liabilities in undertaking important operations and the prudence of requiring explicit consent of the patient or his legal representative before beginning an operation. The decision covers three principal points of interest to surgeons: 1. What is sufficient consent to an operation? 2. How much is implied in consent once given? 3. What is the privilege and duty of the surgeon in emergencies arising in the course of an operation undertaken with previously obtained consent? When a patient is in full possession of his mental faculties his personal consent to a surgical operation on himself is a necessary prerequisite. It is obvious that this consent should be obtained after a clear presentation of the necessary facts in the case, and it would seem to be a judicious precaution to obtain such consent in writing. Unfortunately, the testimony in the case cited showed an attempt at deception that seems to have been imprudent even if it might at the time have seemed justifiable. It would appear from the decision that whatever may be the implication involved in consent to one operation, it can not be held to extend to a second operation, but explicit consent to this should be obtained. The decision on the third point is of great importance as it tends to put the duties of the surgeon in the course of an operation already undertaken in a clearer light. It is the duty and the legal right of the surgeon in the presence of unexpected conditions arising in the course of an operation to use his highest skill and judgment even if the consent of the patient or of his representative can not be obtained. It is also right and the duty of the surgeon to act in accordance with the best teachings of surgery in emergencies in which consent can not be obtained, even to the extent of performing operations.

1. Abstracted in Medicolegal Department, this issue, page 730.

THE ECONOMIC VALUE OF LIFE.

The average American gives so little heed to the vast economic waste that goes on yearly, due to the maiming or killing of workmen, that it has become a trite truism that in the United States the cheapest commodity on the market is human life. That this should be so is a grave economic, not to say social, error. Far-sighted employers are beginning to realize that the warp and woof of our economic fabric is weakened and destroyed when working conditions are such as to be a standing menace to the life and safety of the workers. Not only in the operation of machinery, however, is there danger. The exigencies of modern industrial life have produced many trades that are distinctly dangerous to the workers in them. Lead poisoning is a positive sequel to employment in factories where storage batteries are made; ptyalism is of the commonest occurrence among the women and girls working in hat and silk factories—and the list could be extended indefinitely. We feel, therefore, that the exposition which was held recently in New York City,[1] where were shown the many devices on the market for the protection to life and limb of industrial workers, was most opportune. It is high time that the indifferent public be awakened to the enormous loss

1. The Exposition of Safety Devices and Industrial Hygiene held at the American Museum of Natural History, New York City, Jan. 20 to Feb. 12, 1907.

entailed by these needless sacrifices. Men are of more value than things—life is a greater asset than property—and any nation that persists in remaining blind to these facts must sooner or later fall behind in the race for commercial supremacy. Concretely it may be worth remembering that in New York City alone there is a daily average of nine violent deaths from preventable causes. In the United States, declares the American Institute for Social Service, we kill in industrial accidents every four years 80,000 more people than fell in battle and died of wounds on both sides during the four years of the Civil War. These figures help us to realize the price we pay for our commercial prosperity and give some idea of our wasteful prodigality in that plentiful commodity—human life. Devices that lessen the liability to accident and expositions that awaken the public conscience to the need of the installment of such devices are to be welcomed. It is to be hoped that the time is not far distant when the worker in the mine or in the factory may earn his living with a reasonable degree of safety to life and limb.

PSYCHIATRIC CLINICS IN HOSPITALS FOR THE INSANE.

Resolutions have been introduced by the speaker of the Illinois House of Representatives condemning the psychiatric clinics in one of the state insane hospitals. He has, moreover, used his privilege as speaker to refer it to the committee which controls the appropriations for such institutions. The ostensible ground of objections is the use of the inmates of the institution in these clinics under the assumption that such use is an ignominy and a hardship to those unfortunates. Considering the fact that the institutions are designed primarily not merely for the benefit of their inmates but for the prevention and cure of the growing evil of mental disorder in the state, the view of their functions as embodied in this resolution seems a narrow one. Only by a better knowledge of insanity on the part of the medical profession can we expect to wage a successful campaign against the spread of mental disease, and the use, for professional instruction, of the material at the state's command, would seem to be most reasonable. The assumption is, moreover, unjustifiable that by such utilization the recipients are subject to humiliation or abuse. Those attending such clinics for the acquirement of scientific knowledge are not such as would utilize the opportunity for trifling. In fact, the publicity that these clinics involve as to the treatment and management of the insane is an insurance against the mistreatment and neglect that have been charged, justly or unjustly, against our asylums in years past. The more the medical profession generally can know of the inside of these institutions and of the treatment given there, the better for the welfare of the patients in them and for the interest of the public which supports them. It is not hard to see how the scientific utilization of these institutions for the benefit of the patients and of the public might be inimical to the interests of those who consider them mainly as places for the bestowal of political patronage—and that idea has been at least one of the causes of nearly every asylum scandal in this country—but of its ultimate value to the insane there can be no question. In this connection it may be of interest to note that the former head of the institution, who was superseded by the present incumbent, lives in the speaker's district. The more public the institutions are to those who are sanely and honestly interested in their work the better for all concerned and especially for the inmates. The hospital specifically concerned in the resolution is under the management of one of the most competent and progressive alienists in the country, and the clinics against which the resolution is directed were started solely for the purpose of enlarging the usefulness of the institution, not only to the inmates but also to the state which maintains it. It is in the direct line with the recommendations of the State Board of Charities and has been indorsed by Governor Deneen. It would be a pity if any resolution, with cheap pretense of philanthropy, incited either by gross ignorance or some ulterior political motive should be given any serious consideration by the legislature. The study of insanity is one of the most serious problems of the day, and humanity can be best served by utilizing every legitimate means of acquiring knowledge of it. The resolution exhibits neither sense nor humanity, but, as a distinguished practitioner says in a letter to the governor, calls us back to eighteenth century madhouse methods. Psychopathic clinics have proved their value abroad, and their more general adoption in this country, wherever competent men can be found to conduct them, would be of signal service to humanity.

Medical News

ARKANSAS.

Society Meetings.—At the annual meeting of the Fourth Councilor District Medical Society, held at Monticello, December 19, the society freely discussed the matter of sewerage system, septic tanks, cesspools, etc.——At the annual meeting of the Yell County Medical Society, held in Dardanelle, December 11, Dr. M. A. Worsham, Centerville, was elected president; Dr. S. E. Miller, Dardanelle, vice-president, and Dr. A. H. McKenzie, Dardanelle, secretary-treasurer.——At a recent meeting of the Union County Medical Society, held in El Dorado, the following officers were elected: President, Dr. John Moore, Lisbon; vice-president, Dr. S. E. Thompson; secretary, Dr. J. B. Wharton; treasurer, Dr. J. M. Sheppard; delegate to the Arkansas State Medical Society, Dr. H. H. Neihus; alternate, Dr. E. T. Hamm.——The Drew County Medical Society, at its annual meeting in Monticello, December 19, elected Dr. W. A. Brown, president; Dr. Sidney Harris, Wilmar, vice-president; Dr. A. S. J. Collins, secretary-treasurer, and Dr. J. R. Tarrant, censor.

ILLINOIS.

Sanatorium Opened.—The Edward Sanatorium for the Treatment of Incipient Tuberculosis, Naperville, built and endowed by Mrs. Eudora Hunt Spalding, Chicago, is now open, 10 patients having been admitted. The present capacity of the sanatorium is 15. No charge is made for treatment.

Personal.—Dr. Henry G. Schmidt, Elgin, has been appointed physician to a mining company in Torreon, Mexico.——Dr. and Mrs. Joseph R. Waln, Peoria, have gone to Florida for two months.——Dr. Joseph H. Roy, Kankakee, was thrown from his buggy in a collision with a trolley car February 8, and painfully injured.——Dr. Ernest B. Mammen, Bloomington, is about to take a trip to Europe.——Dr. Cassius M. Craig, Champaign, has returned home after several weeks spent in a Chicago hospital, where he underwent operation.

Society Meetings.—At the annual meeting of the Wabash County Medical Society the following officers were elected: Dr. Robert J. McMurray, St. Francisville, president; Dr. Sereno W. Schneck, Mount Carmel, vice-president; Dr. Richard S. Manley,

Mount Carmel, treasurer, and Dr. George C. Kingsbury, Mount Carmel, secretary. The society adopted resolutions endorsing the position taken by the American Medical Association and the Illinois State Medical Society regarding the compensation for life-insurance examination.——The Physicians' Club of Lincoln held its annual session January 18 and elected the following officers: Dr. William W. Houser, president; Dr. Walter W. Coleman, vice-president; Dr. Harry S. Oyler, secretary-treasurer, and Drs. Lucian L. Leeds, James L. Lowrie and Calvin C. Montgomery, trustees.——At a meeting of the Christian County Medical Society, held in Taylorville, January 17, the following officers were elected: President, Dr. J. J. Connor, Pana; first vice-president, Dr. J. H. Dickerson, Taylorville; second vice-president, Dr. Dwight F. Morton, Taylorville; secretary-treasurer, Dr. D. D. Barr, Taylorville; censors, Drs. E. H. Douglas, Taylorville; J. N. Nelms, Taylorville, and William T. Bridge, Stonington; finance committee, Drs. T. A. Lawler, H. M. Woolf, Taylorville.

Bills in the Legislature.—Among the bills introduced in the senate and house is one providing for a state sanatorium for tuberculosis; one to regulate the practice of osteopathy; a bill to amend the embalmer's bill; one to amend the law in relation to coroners; one to provide for the testing of the sight and hearing of the pupils of public schools; one to regulate the sale of narcotics and drugs; one to promote the care and curative treatment of the insane; one to provide for moral and humane education in public schools; one making appropriations for the Illinois State Colony for Epileptics; one to establish an institution for the surgical treatment of children; one to prohibit the collection of second-hand bottles or jars; one making it unlawful to sweep cars or coaches while occupied by passengers; one regulating the manufacture and sale of proprietary drugs and medicines; one preventing fraud in the sale of dairy products; one prohibiting the sale of adulterated or misbranded food and drugs; one to regulate the practice of barbering in the state, and one for the licensing of cold-storage warehouses and the marketing of goods placed in cold storage.

Antituberculosis Campaign.—A lecture by Dr. William A. Evans of Chicago on "Tuberculosis" was delivered before an audience that packed the Auditorium in Jacksonville. The lecture was given under the auspices of the Woman's Club and of the Jacksonville Society for the Prevention of Tuberculosis. Very great interest in tuberculosis is being manifested in Jacksonville. This is largely due, no doubt, to the aggressive campaign instituted by the society above mentioned. This society, in addition to having lectures delivered on the subject also publishes, for free distribution, a terse little pamphlet setting forth, in easily understood language, the prophylaxis and treatment of the disease.

Chicago.

Physicians on Ambulances.—On February 18 physicians were for the first time assigned to city ambulances. Sixteen physicians are employed at a salary of $100 per month. The service is under the charge of Dr. George Hunt of the health department.

Mortality.—Deaths from all causes for the week ended February 16 numbered 698, equivalent to an annual death rate per 1,000 of 17.27. Pneumonia caused 156 deaths; consumption, 72; heart diseases, 60; scarlet fever, 39; nephritis, 37; acute intestinal diseases, 28; cancer, 24; nervous diseases and violence (including suicide), each 22; diphtheria, 11, and measles, 4.

Infectious Diseases.—The report of the health department for the week ended February 16 shows a continued decrease in the number of infectious diseases. The diphtheria cases reported number 150, or 60 less than for the previous week; scarlet fever, 386, a reduction of 234, and measles, 130, a decrease of 14. The total number of infectious diseases for the week was 704, or 324 less than was reported for the previous week.

Personal.—Dr. Edwin W. Ryerson has been appointed attending orthopedic surgeon at St. Luke's Hospital and orthopedic surgeon at the Children's Memorial Hospital.——Dr. Samuel L. McCreight and family, who spent the winter in Los Angeles, have returned to Chicago.—Dr. Charles Adams has been very ill this week.——Dr. William A. Evans, who has been seriously ill with influenza at Grace Hospital, is improving.

Health Department Inquires About Fourth Disease.—Dr. Charles J. Whalen, commissioner of health, has prepared circulars to be sent out to physicians in the city who have reported cases of scarlet fever and measles, requesting reports on the cases and facts concerning symptoms that will aid in explanation of the phenomena called "fourth disease" or "Duke's disease." It will be remembered that in an editorial, Feb. 9, 1907, page 526, THE JOURNAL took the stand that the "fourth disease" has not been established as a clinical entity. Dr. Whalen hopes that this inquiry may contribute to the knowledge on the subject.

IOWA.

Personal.—Dr. Charles E. Ruth, professor of the principles and practice of surgery and clinical surgery in Keokuk Medical College, Keokuk, has resigned, on account of his wife's health, to take effect at the close of the present session of the college.——Dr. David S. Fairchild, Sr., Clinton, is recovering from the effects of septicemia caused by the infection of a finger during an operation.——Dr. Frank H. Cutler, Cedar Falls, has been appointed lecturer in electrotherapeutics at the University of Iowa, College of Medicine, Iowa City, a new position recently established.——Dr. Abel Ford, a retired practitioner of Le Grand, was thrown from a sled recently and sustained concussion of the brain. He is expected to recover.

KENTUCKY.

Typhoid Epidemic.—Typhoid fever is reported to be epidemic in Bath County, where numerous cases have occurred with several deaths.

Tuberculosis Hospital Work Hampered.—The Fiscal Court of Jefferson County failed to make a levy for the maintenance of the Tuberculosis Hospital, which will greatly handicap the work of this much-needed institution.

Personal.—Drs. Henry V. Pennington, London, and George S. Brock, Bush, have gone to Europe.——Dr. David T. Stuart, Paducah, has accepted the presidency of the Blake Hospital, Hang Chow, China, and sailed from Seattle, February 5.

Empowered to Revoke.—By order of the General Assembly, the State Board of Health is empowered to revoke the license of any physician proved guilty of having performed an abortion, and also of any physician who becomes addicted to liquor or drug habits to a degree which disqualifies him to practice with safety to the people.

Milk Certified.—The Jefferson County Medical Society milk commission is now "certifying" to the purity of the milk from three dairies; all precautions prescribed by the commission in regard to the production, care in handling, shipping, cows, barns, etc., being carried out. The latest development in the milk situation is the advertisement by a distributor of "certified" milk, the purity of which is certified by two physicians and a veterinarian probably under salary. The city health department is preparing also to certify dairies which come up to the requirements of the Jefferson County commission's standards. The arousing of public opinion by the crusade against swill feeding and in favor of pure milk will give a better supply in general.

Society Meetings.—At the quarterly meeting of the Kentucky Midland Medical Society, held in Louisville, January 10, Dr. Charles W. Kavanaugh, Lawrenceburg, was elected president; Dr. Nevil M. Garrett, Frankfort, vice-president, and Dr. George P. Sprague, Lexington, secretary-treasurer.——At a meeting of the Graves County Medical Society, held in Mayfield, January 15, the following officers were elected: Dr. Benjamin F. Morris, Mayfield, president; Dr. John F. Kirksay, Sedalia, vice-president, and Dr. Herbert H. Hunt, Mayfield, secretary-treasurer.——The Clark County Medical Society, at its meeting at Winchester, January 12, elected the following officers: Dr. Samuel W. Willis, president; Dr. Howard Lyon, vice-president; Dr. Ernest Cole, secretary-treasurer, and Dr. Samuel W. Willis, delegate to the state society, all of Winchester.——A meeting of the Central Kentucky Medical Society was held in Danville, January 24, and the following officers were elected: President, Dr. John M. Acton, Lancaster; vice-president, Dr. John C. Bogle, Danville, and secretary-treasurer, Dr. J. Thomas Price, Harrodsburg.

Colleges Merge.—An announcement was made February 14 of the consolidation of the medical departments of Kentucky University and University of Louisville. In consideration of the sum of $40,000 the University of Louisville purchases the buildings of Kentucky University, its good will and equipment, and the two faculties are combined. The faculty of the new school will be composed of the following physicians: J. G. Sherrill, A. D. Willmoth, W. O. Roberts, T. L. Butler, surgery; Henry Enos Tuley, William B. Doherty and R. L. Edmunds, obstetrics; T. C. Evans and J. M. Ray, eye, ear, nose and throat; Adolph Pfingst and Edward Palmer, physiology; S. E. Woody and R. B. Gilbert, pediatrics; J. B. Marvin and J. G.

Cecil, medicine; W. E. Grant and J. M. Bodine, anatomy; Louis Frank and Turner Anderson, abdominal surgery; L. L. Solomon, Virgil Simpson and H. A. Cottell, materia medica and therapeutics; H. M. Goodman, chemistry; C. W. Hibbitt, gynecology; O. H. Kelsall, genitourinary diseases; Bernard Asman, diseases of the rectum. Kentucky University will continue its present session until its close in its present quarters, when its class will be graduated and diplomas issued by the University of Louisville. The present buildings will then be used by the University of Louisville as its academic department.——An announcement has just been made of the consolidation of the Louisville Medical College and the Hospital College of Medicine, the latter being the Medical Department of Central University. The buildings of the Louisville Medical College will be used, the buildings formerly used by the other college reverting to the university. The consolidated college will be known as the Medical Department of Central University. The details of the merger have not been completed, but it is very likely that Dr. L. S. McMurtry will be president of the combined faculties. The following physicians will compose the faculty of the new college: P. R. Taylor and William Cheatham, eye, ear, nose and throat; L. S. McMurtry and A. M. Cartledge, gynecology and abdominal surgery; F. C. Wilson, S. J. Meyers and B. F. Zimmerman, medicine; S. G. Dabney and Ellis Duncan, physiology; E. G. Burnett, nervous diseases; Edward Speidel and H. B. Ritter, obstetrics; H. H. Grant, G. A. Hendon, W. C. Dugan, Irvin Abell, surgery; J. E. Hays and C. W. Kelly, anatomy; Harris Kelly, chemistry; H. N. Leavell, pediatrics; Bernard O'Connor, pathology and bacteriology.

MARYLAND.

Society Elects Officers.—A meeting of surgeons of Maryland Division of the Western Maryland Railroad from Baltimore to Cumberland was held at Hagerstown, January 22. Dr. D. Z. Dunnott, Baltimore, presided; about 40 attended and a permanent organization was effected with the following officers: Dr. Daniel Z. Dunnott, Baltimore, chief surgeon of the Western Maryland Railroad, president; Drs. J. McPherson Scott, Hagerstown, and E. H. Parsons, Piedmont, W. Va., vice-presidents; Dr. Joseph T. Hering, Westminster, secretary-treasurer.

Baltimore.

Add to Endowment Fund.—Johns Hopkins University received $150,000 from the estate of the late Charles L. Marburg, $100,000 of which goes to the hospital and $50,000 to the university. The original endowment fund of the hospital was $3,326,000 which, through careful investment and management has increased more than a quarter of a million dollars.

MASSACHUSETTS.

Medical School Property Sold.—The old Harvard Medical School site on Boylston Street has been sold to the trustees of the Boston University for $596,000.

Improve Water Supply.—The State Board of Health has recommended that the water supply of Lynn be improved at an estimated cost of $400,000, by the establishment of a filtration plant which will give 2,500,000 gallons of pure water per day.

Floating Hospital Needs Funds.—Owing to the demands on the Boston Floating Hospital, due to the unusual amount of sickness during the past summer, the hospital has incurred considerable debt. The trustees make an urgent appeal to the public for an appropriation of $10,000 which is needed.

Epidemic Diseases.—Amherst College, with five cases of scarlet fever, one of which has proved fatal, has been ordered closed till March 1.——Wheaton Seminary, Norton, with 26 cases of the same disease, has also closed.——Rumors of an epidemic threatening Harvard University prove to have no basis.

Hospital Reports.—Carney Hospital reports 55,497 patients treated in the out-patient departments in the last year and 2,145 house patients. Of these, 1,174 paid full rates and only 550 paid nothing. The charity work, however, is rapidly increasing.——The New England Baptist Hospital reports its last year's work just ended. A new ward is to be erected. At present there are five free beds.——The New England Deaconess Hospital cared for 250 patients last year, one-third being free. The new hospital in Longwood is fast approaching completion.

Disease and Death.—For the ten weeks ended February 9, there were reported 2,424 deaths in Boston, an increase of 233 over the corresponding period of last year. There were 566 cases of diphtheria, with 39 deaths; 760 of scarlet fever, with 9 deaths; 76 of typhoid fever, with 15 deaths; 159 of measles, with 2 deaths; 409 of tuberculosis, with 241 deaths. There were 387 deaths from pneumonia; 11 from whooping cough; 302 from heart disease; 64 from bronchitis, and 25 from marasmus. Of those who died 372 were infants under 1 year, 510 under 5 years of age and 684 more than 60 years old.

Bequests.—A gift of $25,000 to the Lawrence City Hospital, under the will of the late Helen G. Coburn, Boston, for the maintenance of free beds for patients from Andover will be paid by virtue of a decision of Justice Morton of the Supreme Court.——By the will of the late Charles F. Farrington Harvard Medical School will receive $50,000 to advance the knowledge of infectious, communicable and kindred diseases.——Should the heirs of the late George F. Fabyan, Brookline, die without issue his estate, said to be worth several millions of dollars, will go to the Massachusetts General Hospital, Harvard University, Children's Hospital, Perkins Institute for the Blind, the Boston Home for Incurables and other institutions. As six heirs still live, the possibility of these institutions receiving any portion of the estate is believed to be remote.

Society Meetings.—The Haverhill Medical Society celebrated its twentieth anniversary February 7 by a banquet. Dr. Maurice D. Clark presided and Dr. Charles E. Durant was toastmaster.——At the semiannual meeting of the Essex North District Medical Society, held in Haverhill, January 2, resolutions were adopted favoring the work of the Council on Pharmacy and Chemistry of the American Medical Association.——At the winter meeting of the councilors of the Massachusetts Medical Society, held February 6, Dr. George C. Sears, Boston, chairman of the committee on state and national legislation, asked that suppport be given to the bill giving authority to school physicians only, to sign releases from vaccination of school children and to the bill similar to the national food and drugs law, for labeling proprietary medicines and food products. Dr. Ralph H. Seelye, Springfield, and Drs. Cook and Cabot, of Boston, were elected delegates to the American Medical Association, with Drs. Perley P. Comey, Worcester; Charles A. Porter and Richardson, Boston, alternates.

Personal.—Dr. Harry E. Sears, Beverly, has been appointed associate medical examiner for Essex County.——Dr. Walter J. Marcley has resigned as superintendent of the Massachusetts State Sanatorium, Rutland, to take charge of the new State Sanatorium of Minnesota, at Walker.——Dr. Charles L. Moran, Boston, house officer of the south department of the Boston City Hospital, is ill with erysipelas.——Dr. William L. Thompson has been elected district physician to the Boston Dispensary.——Dr. Harry M. Stoodley has been appointed medical inspector of the Somerville public schools, vice Dr. Warren D. Ruston, resigned.——Drs. H. M. Adler, G. W. Hall, W. B. Robbins and C. T. Overlander have been appointed assistants in the clinical laboratory work of the Harvard Medical School.——Dr. Gilman Osgood, Rockland, has been appointed medical examiner for the second Plymouth district, vice Dr. Henry W. Dudley, Abington, deceased.——Dr. William L. Richardson, Boston, has been appointed a member of the board of trustees of Perkins Institute and Massachusetts School for the Blind.

MICHIGAN.

Nurses' Home Open.—The Nurses' Home, given by Mr. and Mrs. Charles H. Davis, Saginaw, has been opened in connection with the Saginaw General Hospital. The building is of vitrified brick, 44x72 feet, and three stories in height, steam heated, lighted by electricity and thoroughly equipped.

Personal.—Dr. Edward A. Florentine, Sidnaw, has moved to Saginaw and will practice with his father, Dr. Frank B. Florentine.——Dr. H. Beach Morse, Elk Rapids, has been appointed physician for Elk Rapids and Milton townships, Antrim County.——Dr. Howard A. Osborne, Detroit, is convalescent from a severe attack of scarlet fever.——Dr. Robert W. Alton, Portland, has returned after a three-months health trip to New Mexico.——Dr. William H. Dodge, Hancock, is taking a trip to Mexico and California.——Dr. James H. Hudson, Merrill, is at St. Mary's Hospital, Saginaw, for treatment.

To Restrict Criminal Abortion.—Dr. F. J. W. Maguire has drafted a bill which is now before the legislature, proposing to make it a criminal offense to solicit a physician to perform an abortion or for any one to procure an abortion on herself or on any other pregnant woman without the consent and advice of at least two physicians. The public education intended by this bill is admirable, and the good effects of such legislation would be by no means confined to those resulting from the conviction of persons violating the law. The physician would be largely relieved from insulting proposals for him to interfere with the course of pregnancy, and would be able to point to the law as the expression of a higher standard of morality than that of many of the laity.

MINNESOTA.

To Abolish Smallpox Quarantine.—The Minnesota State Board of Health voted to abolish quarantine for smallpox after Jan. 1, 1908, because vaccination is a sufficient preventive of infection. This plan is the subject of editorial comment in this issue.

MISSOURI.

Anniversary Banquet.—The Society of German Physicians of St. Louis celebrated the twenty-fifth anniversary of its organization by a banquet. Dr. Gustav Baumgarten, one of the founders of the society, spoke on the history of the society, and a silver writing set was presented to Dr. Edward Evers, who for 18 years has been the most efficient secretary of the organization.

Personal.—Dr. Charles E. McBride has been appointed physician for the Webb City district of Jasper County, vice Dr. Ernest H. Bair, elected coroner, and Dr. William J. Willim, physician for the Joplin district of the same county.——Dr. James M. Buchanan, St. Louis, has been appointed district medical examiner for the United States Civil Service Commission.——Dr. J. M. Marks, house surgeon of the Wabash Employé's Hospital, Moberly, has resigned, to be succeeded by Dr. C. M. McCumber of Chicago.——Dr. James A. B. Adcock, Warrensburg, has been re-elected secretary of the State Board of Health.——Dr. John F. Osborn has been appointed assistant health officer of St. Joseph.

St. Louis Medical Society.—On January 26 the society listened to a lecture by Dr. Herman Von Schrenk on "Present Problems in Plant Pathology." The lecture was made more interesting by stereopticon views and the exhibition of rare specimens.——The committee appointed for that purpose presented, at the meeting of February 9, resolutions on the death of Dr. A. Van Liew Brokaw.——A section on ophthalmology has been formed and held its first meeting, and the formation of other sections is contemplated.——The average attendance at the meetings the past year was 129.——The program at the meeting, February 9, was a symposium on heart block. Dr. H. D. Senior showed a number of calves' and human hearts with the bundle of His dissected out.

NEBRASKA.

Society Meetings.—The Dodge County Medical Society held its annual meeting in Fremont, January 14, and elected Dr. John J. Metzinger, Fremont, president; Dr. Tandy Wigglesworth, Hooper, vice-president; Dr. Andrew P. Overgaard, Fremont, secretary; Dr. Edwin W. Martin, Fremont, treasurer, and Dr. Hamilton N. Morrow, Fremont, delegate to the state medical association.——The Elkhorn Medical Society met at Norfolk, January 16, and elected the following officers: President, Dr. David W. Beattie, Neligh; vice-presidents, Drs. Richard H. Rhoden, Fremont, and Homer L. Kindred, Meadow Grove; secretary, Dr. Wm. R. Peters, Stanton, and treasurer, Dr. W. H. H. Hagey, Norfolk.——The Colfax County Medical Society held its annual meeting at Leigh, January 16, and elected the following officers: President, Dr. Charles J. Alger, Leigh; vice-president, Dr. Charles D. Eby, Leigh; secretary-treasurer, Dr. Brice A. Corbin, Schuyler, and censors, Drs. Silas G. Allen, Clarkson, and Peter Cavanagh, Schuyler.——At the annual meeting of the Adams County Medical Society Dr. William H. Lynn, Hastings, was elected president; Dr. Eugene C. Foote, Pauline, vice-president, and Dr. Fred. L. Taylor, Hastings, secretary-treasurer.——The Richardson County Medical Society met in Humboldt, January 25, and elected Dr. William E. Shook, Shubert, president; Dr. Asa W. Montgomery, Stella, vice-president; Dr. Charles T. Burchard, Falls City, secretary-treasurer; Dr. John A. Waggener, Dawson, censor, and Dr. Edward C. Wittwer, Humboldt, delegate to the state association.

NEW YORK.

Cocain Bill Passed.—The General Assembly has passed the Whitney bill, by the State Pharmacy Board, prohibiting the sale of cocain and eucain except on the prescription of a physician.

Diphtheria in Ithaca.—Since the outbreak of this disease in Ithaca there has been a total of 76 cases. Many of the students in Cornell University have left for their homes because of the epidemic.

To Lessen Number of Deaths from Gas.—Coroner Julius Harburg has had a bill introduced into the assembly prohibiting gas companies from using more than one stopcock on each gas pipe in use for consuming illuminating gas in buildings or rooms used for sleeping purposes.

Personal.—Dr. Roswell Park, Buffalo, has been appointed a member of the board of visitors of the United States Military Academy, West Point.——Dr. E. R. Davis, Portageville, was drugged and robbed in his office by two men February 6, who were later arrested and sentenced to imprisonment for 61 days in the Erie County penitentiary.——Dr. George I. McKelway has resigned from the surgical staff of the Flushing Hospital.——Dr. Simon F. Cox, Albany, has been appointed superintendent of the State Hospital for Tuberculosis.

Cost of State Charitable Institutions.—The report of the State Board of Charities for 1906 shows that $1,945,089 was appropriated by the state to charitable institutions. It recommends that the legislature appropriate for the coming year $1,415,000 for maintenance and $467,920 for new buildings and improvements. A plea is made for the establishment of a new custodial asylum for the care of demented epileptics and feeble-minded persons who can not properly be cared for in existing institutions. At present there are 450 idiots and helpless dements in the Craig Colony who are out of place in an open institution. There are several hundred others scattered throughout the state who should receive custodial care and for whom there is no place in established institutions. There were 7,753 inmates in the almshouses of the state at the close of the year and the number seems to be increasing. The board recommends the building of a hospital pavilion for the Soldiers and Sailors' Home, as there are many cases of tuberculosis among the veterans requiring proper care. The record shows that there were 30,618 dependent children remaining in institutions at the close of the fiscal year.

Proposed State Medical Law.—The Medical Society of the State of New York has sent a letter to the members of the profession telling of the efforts the three societies had made to reach a conclusion as to the framing of a law providing for a single examining board which should examine all applicants for medical license. Questions relating to materia medica and thereapeutics were to be excluded from the medical examination. The representatives of the eclectic and homeopathic societies did not approve of this. Senate bill No 154 and Assembly bill No. 160 provide for a single examining board, absolutely abolishing as a matter of state recognition all distinctions between schools of medicine and meeting the disinterested view of the Educational Department of the State of New York. The State Medical Society gives the bills its unqualified approval, while the other schools have sent out letters of opposition in which the real issue is obscured. As a result, the Medical Society of the State of New York considers itself in duty bound to secure the passage of the bill for the following reasons:

1. The medical men of the state who really believe in high educational standards should assist and not oppose the Educational Department in New York in its effort to legislate for the best interests of the people of the whole state.
2. We are willing to let the citizens of the state choose the school or schools of medicine they prefer to patronize without legal interference and authority.
3. Medical laws are not designed to bolster up medical schools and medical sects, but are designed simply to establish a scientific standard that the quack and charlatan can not reach.
4. We believe the Board of Regents of the University of the State of New York, who will appoint the medical examiners under the proposed bill, are fair and impartial, and will not use the power of appointment to discriminate for or against any medical school or sect.
5. Unless a single board of medical examiners is established, the state, if consistent, must in time grant a board to vitopaths, somatopaths, hydropaths, osteotherapists, electropaths, osteopaths, midwives, opticians and every pseudo-school whose adherents clamor for it loud enough. Such a system would make ridiculous the whole theory of medical education. Where is the state to draw the line?
6. The long-desired unity of the medical profession and the honest affiliation of all medical men of all schools on a common basis of scientific fellowship can not become a reality until the state abolishes the distinction between their sects and schools, and sets a standard of merit in those subjects only wherein medicine is an exact science. Medical sects must not fear to stand the inexorable law of the survival of the fittest.

New York City.

Vacancy on Staff.—There is a vacancy on the resident staff of Seton Hospital for Tuberculosis, Spuyten Duyvil. The position is a salaried one and applications should be made to Dr. Theodore J. Abbott, 123 East Seventy-eighth Street, New York City.

Harvey Lecture.—The ninth lecture of the Harvey Society course, by Dr. William T. Councilman, professor of pathology in Harvard University, at the New York Academy of Medicine, February 23, is on the subject, "The Relation of Certain Leucocytes to Infectious Diseases."

Plans for Pathologic Building.—Plans for the six-story and basement pathologic building which is to be a part of the new

Bellevue Hospital have been filed. The building is to have a frontage of 142 feet and a depth of 120 feet. The building will cost $800,000, and is the second of the group for which plans have now been filed.

Roosevelt Hospital Wins Suit.—Roosevelt Hospital has won its suit against the city whereby it claimed exemption from taxes on $150,000 worth of real estate not used for hospital purposes. The writ was sustained on the ground that the conveyance of the property to the corporation of Roosevelt Hospital was induced by the promise of an exemption by the city from the taxes.

Infant Death Rate Lowered.—The eighteenth annual report of the Babies' Hospital announces that the death rate among children under 1 year old in the city has fallen from 24.2 per 1,000 in 1888 to 17 per 1,000 in 1905, and among all children under 5 years of age from 101 to 55 per 1,000, these reductions representing an annual saving of 4,376 infants under 1 year and of 12,604 under 5 years of age.

To Help Stamp Out Tuberculosis.—The committee on prevention of tuberculosis of the Charity Organization Society, composed of a number of noted physicians and citizens, has made an urgent appeal for more funds with which to carry on the crusade against tuberculosis. The funds are entirely exhausted, and if the excellent educational work so well begun is to go on more money must be forthcoming.

New Medical School.—A postgraduate medical school has been opened in connection with the Williamsburg Hospital. There are already several matriculants. The school has established connections with a number of hospitals in Brooklyn. The directors of the hospital have purchased several parcels of property adjacent to the present hospital buildings for a new institution and for homes for nurses and doctors.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended February 9, 350 cases of tuberculosis, with 208 deaths; 314 cases of diphtheria, with 57 deaths; 261 cases of scarlet fever, with 12 deaths; 195 cases of measles, with 5 deaths; 65 cases of whooping cough, with 5 deaths; 61 cases of typhoid fever, with 7 deaths; 10 cases of cerebrospinal meningitis, with 16 deaths; 92 cases of varicella and 2 cases of smallpox, a total of 1,350 cases and 310 deaths.

Public Lectures on Insanity.—Dr. Allan McLane Hamilton will deliver the fourth of the series of public lectures on the above topic, arranged for by the Psychiatrical Society of New York, at the Academy of Medicine, 17 West Forty-third Street, Saturday, March 2, at 8:30 p. m. The subject will be "The Development of the Legal Regulations Concerning the Insane." These lectures are intended to place before the medical profession and the general public facts with regard to mental disorders, which indicate the possibility and duty of initiating a wide movement toward general preventive measures.

More Work for Clean Milk.—Another meeting for the purpose of discussing the milk question has been held in Cooper Union, where three experts spoke in favor of Pasteurization. It was shown that until the conditions under which milk was produced could be improved, Pasteurization was the only safe course. It has been announced that a permanent committee of citizens formed to devise ways and means of improving the quality of the milk supply of the city has planned for the establishment of more Pasteurizing plants with depots in different localities throughout the city. It aims to secure a daily supply of from 20,000 to 30,000 quarts. If the amount required can not be supplied at present, it will be supplemented by inspected and certified milk. Assurances of financial support to the extent of from $100,000 to $200,000 have been made. It is hoped that after the city sees the good effects of this work it will come to the front and assume the burden. It has been shown by the committee that among children supplied with Pasteurized milk the mortality has fallen from 19 to 3 per 1,000.

NORTH CAROLINA.

Personal.—Dr. J. Howell Way is convalescent from his recent illness.——Dr. Julius A. Caldwell, Salisbury, was painfully injured in a runaway accident near that town, January 16.

Society Meeting.—At the annual meeting of the Robeson County Medical Association, held at Lumberton, January 2 Dr. Benjamin F. McMillan, Red Springs, was elected president; Dr. James D. Croom, Maxton, vice-president, and Dr. Neil A Thompson, Lumberton, secretary-treasurer.

Hospitals Under State Commission.—A state commission, to be composed of the governor, attorney-general and superintendents of the three state hospitals for the insane and four business men to be appointed by the governor, will have joint control of the insane hospitals of the state under the recently enacted Bickett bill. They will also have authority to expend $600,000 in proper additions to existing institutions.

New Hospital for Durham.—Several years ago Mr. George W. Watts, Durham, presented the city with a hospital, which represented an outlay of nearly $100,000. He has recently announced his intention of erecting an entirely new Watts Hospital, at a cost of $500,000, which will, it is said, be the most complete in its appointment of any hospital between Baltimore and New Orleans. Work was begun on the foundations January 1.

OHIO.

Hospital Report.—At the annual meeting of the staff of Mt. Sinai Hospital, Cleveland, it was reported that during 1906 479 patients were admitted. There were eight deaths on the medical side during the year and three deaths on the surgical side. Two hundred and seventeen major operations were performed. Anesthesia was given by the ether drop method 246 times without fatality. Dr. Frank E. Bunts was re-elected president; Dr. Carl A. Hamann, vice-president, and Dr. Walter G. Stern, secretary.

Ill, Injured and Operated.—Dr. George W. Sauer, formerly of Hanover, has been committed to the Masillon State Hospital from Stark County.——Dr. Ezla A. Dye, Vienna Crossroads, recently underwent operation for gallstones at the Springfield City Hospital.——Dr. Charles E. Gaines, Covington, had a narrow escape from death by an overdose of strychnin.——Dr. Elmore Y. King, Richwood, is reported to be critically ill.——Dr. Arthur H. Smith, Marietta, fell on an icy pavement January 29, fracturing his left arm above the elbow.——Dr. Grant S. Staub, Dayton, has been seriously ill with septicemia.——Dr. Edward J. Wilson, Columbus, was operated on for appendicitis February 1.——Dr. Frank L. Stillman, Columbus, was severely injured in a collision February 7, between an automobile and street car.——Dr. John H. Landis, Cincinnati, is ill with typhoid fever.

PENNSYLVANIA.

Hospital Report.—The biennial report of the Hazelton Hospital for the term ended Sept. 30, 1906, shows that 2,558 patients were treated in the institution. These were all surgical cases, as no medical work is done at the institution.

Personal.—Dr. William C. Gayley has declined reappointment as a member of the Hazelton board of health.——Dr. Lewis H. Taylor, Wilkes-Barre, is spending a few weeks in Florida.——Dr. Howard F. Pyfer, Norristown, sailed for Europe December 1 on the *Caronia*.—Dr. Robert W. Brady and family, Honesdale, have gone to Estero, Fla., to spend February and March.

First Aid to the Injured.—The Lehigh Valley Coal Company is about to introduce a system of first aid to the injured at its mines. A corps of men, about 20 in number, will be chosen at each colliery and will be taught by lectures and demonstrations the various methods of emergency treatment. Special instruction will be given in the use of the litter, carrying helpless patients, lifting over obstructions, etc. There will be competitive drills and a trophy will be awarded the best team. The work will be carried on under the direction of Dr. Walter Lathrop, Hazelton, and the litter drills, etc., under the direction of Mr. Dimon of the Lehigh Valley Company, and a former member of the hospital corps of the Army. The Philadelphia & Reading and Erie coal companies have already organized similar corps.

Societies Elect Officers.—The election of the Lancaster City and County Medical Society resulted as follows: President, Dr. George R. Rohrer, Lancaster; vice-presidents, Drs. C. P. Stahr, Lancaster, and B. F. Good; secretary, Dr. P. P. Brenenman, Lancaster; treasurer, Dr. T. B. Appel, Lancaster; censors, Drs. G. W. Berntheizel, Columbia; O. Roland, Lancaster; J. Mitchell, Lancaster; trustees, Drs. A. G. Bowman, Lancaster; J. H. Musser, Lancaster, and J. J. Newpher, Mount Joy; reporter and librarian, Dr. P. P. Brenenman, Lancaster.——The Monroe County Medical Society elected the following officers: President, Dr. George H. Rhoads, Tobyhanna; vice-president, Dr. C. S. Logan, Stroudsburg; secretary, Dr. W. E. Gregory, Stroudsburg; treasurer, Dr. J. A. Hagerman, Sciota; reporter, Dr. N. C. Miller, Stroudsburg.

Elections.—The following officers of the West Philadelphia Medical Association have been elected to serve for the ensuing year: President, Dr. James W. McConnell; vice-president, Dr. Sherman F. Gilpin; recording secretary, Dr. George M. Boyd; financial secretary, Dr. Charles E. Price, and treasurer, Dr. H. Boydston Smith.——The following have been elected officers of the Philadelphia Pediatric Society: President, Dr. David L.

Edsall; vice-presidents, Drs. Charles F. Judson, Herbert B. Carpenter, and J. Claxton Gittings; recorder, Dr. Charles H. Weber; treasurer, Dr. Howard C. Carpenter, and secretary, Dr. Maurice Ostheimer.——The following officers have been elected for the Northwestern Medical Association: President, Dr. Wilmer Krusen; vice-president, Dr. Clarence P. Franklin; secretary, Dr. Harry Hudson; treasurer, Dr. J. Thompson Schelt, and censors, Drs. Nathan G. Ward, Harry Lowenburg and Ray S. Dorsett.

RHODE ISLAND.

Found Not Guilty.—Dr. Cornelius J. Hasbrouck, Bristol, charged with wilfully reporting a case of scarlet fever as German measles, was found not guilty January 23, the court holding that the prosecution had not made out its case beyond a reasonable doubt.

State Tuberculosis Sanatorium.—The board of trustees for the State Sanatorium for Consumptives has been organized as follows: Chairman, Mr. Roland G. Hazard, Providence, and secretary, Dr. William H. Peters, Providence. The other trustees are Messrs. John C. Pegram and Henry Nugent, Providence, and J. Truman Burdick, Newport. Dr. Harry L. Barnes has been retained as superintendent at a salary of $3,000 annually, and Dr. Charles B. Garrett as assistant superintendent. The institution has 105 patients at present and a waiting list. Many improvements of buildings and grounds have been made during the year.

TENNESSEE.

Personal.—Dr. James A. Anderson, Memphis, has been selected to succeed himself as superintendent of the Shelby Poor and Insane Hospital.

To Protect Physicians.—A bill has been introduced into the House of Representatives of Tennessee to provide for the allowance as preferred claims in the settlement of insolvent estates, of the account of attending physicians for medical services rendered during the last sickness of the deceased.

Suit Against Physician Dismissed.—The malpractice suit against Dr. Thomas O. Burger, McMinnsville, in which he was sued for $10,000 damages for alleged failure to treat a complicated fracture of the elbow joint properly, was dismissed by the jury of the Circuit Court of Warren County after ten minutes' deliberation.

Election.—At a recent meeting of the Knox County Medical Society the following officers were elected: President, Dr. Charles E. Ristine; secretary, Dr. John F. Massey; treasurer, Dr. Ashley W. Ogle, and custodian, Dr. James F. Scott, all of Knoxville.——At a meeting of the Putnam County Medical Society, the following officers were elected: President, Dr. J. F. Dyer; vice-president, Dr. John B. S. Martin, and secretary-treasurer, Dr. L. D. J. Ensor, all of Cookeville.

TEXAS.

Unclaimed Bodies for Dissection.—Senator Masterson has introduced a bill in the Senate providing for the dissection of unclaimed bodies by medical colleges. A similar bill was introduced in the Senate two years ago, but was finally defeated.

Communicable Diseases.—Dr. Thomas V. Fryar, county health officer, reports two cases of smallpox in Corsicana.——Dr. Cadar P. Helms, New Boston, physician of Bowie County, reports a dozen cases of smallpox, all of the patients being negroes.——A number of cases of smallpox are reported among the negroes of Gainesville.——One case in a white family is reported from Lindsay.——Measles are epidemic at Monserate and Hallettsville.——Two cases of smallpox are reported east of Aubrey.

Personal.—Dr. V. P. Armstrong, Dallas, has been appointed assistant state health officer.——Dr. Sam Webb, Albany, has been appointed chief surgeon of the Central Texas Railroad Company, vice Dr. W. C. Jones, Walnut Springs, deceased.——Dr. Lewis W. Pollok, Temple, while assisting in a surgical operation was suddenly attacked by appendicitis, which necessitated immediate operation.——Dr. Wiliam L. Barker, San Antonio, has been appointed superintendent of the Southwestern Insane Asylum, and Dr. Thomas T. Jackson has been elected a member of the board.——Dr. I. Newton Suttle has been appointed local surgeon at Corsicana for the Cotton Belt System.——Dr. William M. Brumby, Houston, who has been appointed state health officer, assumed the duties of his new position January 20.——Dr. Holman Taylor, Marshall, has been appointed assistant state health officer.——The home of Dr. Henry E. Lee, Beaumont, was damaged by fire to the extent of $1,500, January 2. No insurance was carried.——Dr. Joel A. Gibson has succeeded Dr. Christopher C. Nash, Beaumont, as health officer of Jefferson County.——Dr. William A. Watkins. Kemp, has been appointed a member of the board of trustees of the Northwestern Insane Asylum. Dr. Charles L. Gregory, Gilmer, assumed charge of the institution as superintendent, February 4.

Society Meetings.—The Bosque County Medical Society held its annual meeting at Meridian and elected the following officers: President, Dr. Robert L. Kimmins, Iredell; vice-president, Dr. Joseph B. Honeycutt, Womack; secretary-treasurer, Dr. Joseph H. Alexander, Meridian, and delegate to the state association, Dr. Robert L. Kimmins. The society adopted resolutions of respect regarding the late Dr. William C. Jones, Walnut Springs.——The Central Texas Medical Association met at Waco, January 8 and 9. The following officers were elected: President, Dr. Joseph E. Dildy, Lampasas; secretary-treasurer, Dr. Milton P. McElhannon, Belton; chairman and secretary of section on practice of medicine, Dr. John W. Torbett, Marlin, and Dr. Thomas D. Frizzell, Powell; chairman and secretary of the section on surgery, Dr. Kenneth H. Aynesworth, Waco, and Dr. Allen J. Gilbert, Hillsboro; chairman and secretary of the section on eye, ear, nose and throat, Dr. James M. Woodson, Temple, and Dr. Roy H. Gough, Hillsboro, and chairman and secretary of the section on gynecology and obstetrics, Dr. W. L. Crosthwaite, Holland, and Dr. Richard McCormick, South Bosque. The president, secretary and Dr. Ira C. Chase, Fort Worth, secretary of tne State Medical Association, were named as members of the legislative committee. The society adjourned to meet in July at Temple.——The Fayette County Medical Society met in La Grange, January 15, and elected the following officers: Dr. Robert A. McKinney, La Grange, president; Dr. Otto Ehlinger, La Grange, vice-president; Dr. Robert H. Seymour, Warrenton, secretary; Dr. Thomas W. Moore, La Grange, treasurer, and Dr. George W. Allen, Flatonia, censor.

VERMONT.

College Term Opened.—At the meeting of the fifty-fourth annual session of the Medical Department of the University of Vermont, Burlington, President M. H. Buckham presided and addresses were made by Dr. Henry C. Tinkham, dean of the faculty, and Dr. Fred. A. Lockhart, Montreal, Que.

Personal.—Dr. F. Thomas Kidder, Woodstock, has been appointed to represent the state in the National Legislative Council of the American Medical Association.——Dr. L. P. Sprague, Burlington, has been appointed food inspector and state analyst to work at the State Laboratory of Hygiene in conjunction with the State Board of Health and the National Pure Food Association.——Dr. George X. Roberts, Rutland, suffered severe loss by fire in his house, February 4.

State Boards Organize.—At the annual meeting of the State Board of Health at Burlington, Dr. Charles S. Caverly, Rutland, was elected president; Dr. Henry D. Holton, Brattleboro, secretary, and Dr. F. Thomas Kidder, Woodstock, treasurer.——At the annual meeting of the State Board of Medical Examiners, held at Montpelier, January 8, the following officers were elected: President, Dr. Frank H. Godfrey, Chelsea; secretary, Dr. W. Scott Nay, Underhill (re-elected), and treasurer, Dr. Elroy B. Whitaker, Barre.

WASHINGTON.

The Fight Against Tuberculosis.—An association for the prevention of tuberculosis has been organized in Seattle and is now raising funds for the erection of a sanatorium. A site has been selected on the shores of Lake Washington, and offers of liberal assistance are in the hands of the committee having charge of the work.

Personal.—Dr. E. M. Rininger, Seattle, has returned from the East.——Dr. Fonda Nadeau, Seattle, has sailed for Europe.——Dr. William G. Booth, Seattle, has recently returned from Europe.——Dr. Cornelius J. Lynch, North Yakima, will soon leave for the East and Europe.——Dr. Frank H. Luce, Davenport, has been attending the session of the legislature at Olympia.——At a meeting of the State Board of Health at Olympia, January 21, Dr. John M. Semple, Spokane, was elected president, and Dr. Elmer E. Heg, Seattle, secretary.——Dr. James J. McKone, Tacoma, is visiting in Andover, Mass.——Dr. Caleb E. Martin, Bellingham, has been reappointed physician of Whatcom County.——Dr. Ivar Jansen, Seattle, has been reappointed president of the local board of health.——Dr. Joseph E. Stauffer, Everett, has been reappointed health officer and physician of Snohomish County.

WISCONSIN.

Consolidation of Colleges.—Owing to the merger of the Milwaukee Medical College with the Marquette University, the faculty of the former institution has resigned. When the neces-

sary legal formalities have been completed it is understood that the faculty will be reappointed.

State Medical School.—The legislature has been asked for a two-sevenths mill tax for the support and development of existing colleges and departments. The University of Wisconsin asks permission to establish a college of medicine and requests an annual appropriation of $50,000 for such a college equipped to do the first two years of medical work.

Personal.—Dr. Gustavus I. Hogue, Milwaukee, has sailed for Europe by way of the Mediterranean.——Dr. Hugo Philler, Waukesha, on the occasion of his sixty-ninth birthday, was the guest of honor at a dinner given by Dr. Byron M. Caples. ——Dr. and Mrs. William H. McDonald, Lake Geneva, sailed for Europe February 3.——Dr. Stephen E. Gavin, Fond du Lac, sailed for the Mediterranean, February 7.——Dr. Alexander C. Fraser, Manitowoc, sailed for Europe February 7.——Dr. James G. Schall, Oshkosh, was recently operated on for appendicitis.——Dr. Quincy O. Sutherland, Janesville, has been reappointed a member of the State Board of Health.

Communicable Diseases.—Sheboygan reports 10 cases of typhoid.——The public school at Geneva has been closed on account of scarlet fever.——On account of an outbreak of scarlet fever at Medford the public schools have been closed.——On account of scarlet fever in the vicinity the school house in district No. 5, Little Suamico, has been closed.——An epidemic of smallpox is reported from Bloom township, on account of which schools have been closed.——An epidemic of smallpox is reported from Maple Creek.——The public schools of Cooksville have been closed on account of the prevalence of diphtheria.——Smallpox is reported among the Indians of the Lac Court d'Oreilles reservation and the post and village have been quarantined.

WEST VIRGINIA.

Hospital to be Built.—Dr. Henry C. Jones, Bluefield, has purchased 20 acres in the town of Logan, as a site for a hospital and sanatorium.

Personal.—Dr. William A. Cracraft, Elm Grove, is taking a trip to the West Indies.——Dr. Charles H. McLane, Morgantown, has been appointed health officer of Monongalia County. ——Dr. Cyrus F. Boyer, Sr., Fairmont, who has been seriously ill, is reported to be convalescent.

GENERAL.

Merger of Publications.—The *Archives of Physiological Therapy* will hereafter be published as a part of the *Journal of Inebriety*. This latter, in addition to the various phases of its own field, will present the therapeutic effects of hot air, radiant light baths, electricity, massage, psychotherapy and other physiologic means.

FOREIGN.

Official Investigation of Lead Poisoning in Austria.—The members of the Austrian cabinet recently held a conference with 39 experts and representatives of the various trades in which lead is used, to study the subject of lead poisoning in its various aspects. The organization of the investigation is in the hands of Dr. Mataja, chief of the bureau of labor statistics, who sent out to the various trades a question blank to collect data for a crusade against lead poisoning.

Prizes for Research on Alcohol.—The Total Abstinence Association of German-speaking Physicians has offered a prize for the best work on the two following subjects: "Influence of Alcohol on the Length of Life and Metabolism of Starving Animals," and "Means to Deprive Alcohol of Its Toxicity in the Organism During Starvation and also Under Feeding with Sugar." Articles competing for the prizes should be received by Dr. Holitscher, Pirkenhammer bei Karlsbad, before April, 1908.

Prizes for Essays on Prophylaxis of Lead Poisoning.—The International Association for Protection of Workmen Against Occupation Affections offered in 1905 a series of prizes for the best essays on five various aspects of lead poisoning, as mentioned in these columns at the time. Sixty-three articles were received in competition, and 7 of the articles were awarded prizes; 10 were recommended as worthy of purchase and 19 were highly commended. Sommerfeld of Berlin received two of the prizes, while his articles on other aspects of the question received honorable mention or were recommended for purchase.

Thirty-sixth German Surgical Congress.—The next annual congress of the German "Gesellschaft für Chirurgie" will convene at Berlin, April 3 to 6, 1907, with an annex exhibition of instruments, etc. Professor Riedel of Jena will preside, but all business matters are in charge of Dr. Melzer at the Langenbeckhaus, Ziegelstrasse 10/11, Berlin N., where the sessions will be held. The main addresses will be on "Surgery of the Heart," by Rehn of Frankfurt, who appeals to all members of the profession at home and abroad to aid him in preparation of his address, especially with data in regard to the remote results and present condition of patients after operative treatment of heart injuries; "Operative Treatment of Pulmonary Affections," by Friedrich; "Extirpation of the Prostate," by Kümmel, and "Fractures of the Femur, Especially in the Upper and Lower Thirds," by Bardenheuer and König. The program is to be limited to 70 communications and demonstrations, the former restricted to 15 and the latter to five minutes, with the speakers in the discussions limited to five minutes each. The former custom of a general reception of the members the evening before, the Begrüssungs-Abend, has been omitted this year on account of the progressive lack of attendance.

Provision for Cancer Research at Aberdeen.—It is announced that the Hon. A. McRobert, Cawnpore, India, has founded a fellowship at Aberdeen University for cancer research. At Mr. McRobert's death the sum of $50,000 is to be available for this work, but that it may begin at once he has undertaken to provide $2,000 a year. The endowment is to be called the "Georgiana McRobert Fellowship," and is founded as a memorial to Mrs. McRobert. In the event of any epoch-making discovery in connection with cancer research, the medical faculty of the university is to have authority to allot all or any portion of the capital as a reward to the discoverer, and also to the investigator or investigators whose work had, in the unanimous opinion of the medical faculty, contributed to the discovery. If for any reason the fund or the income thereof shall cease to be useful (or become unnecessary) for the original purpose, the medical faculty is to have the power to use them for the furthering of inquiry in like manner into the causes, prevention and treatment of any other so-called incurable disease afflicting the human race. Mr. McRobert expressed the opinion that the appointment should be from year to year, but that a retiring fellow should be eligible for re-election.

Second International Congress for Protection of Child-Life.—This congress is to be held at Brussels, Belgium, September 12-17, 1907, to discuss ways and means for prevention of infantile mortality. THE JOURNAL has frequently mentioned the French institutions called "gouttes de lait" (drops of milk), founded to give advice to mothers, to encourage breast feeding and to distribute milk if needed for infants. Similar institutions have been founded in Germany where they are known as "Säuglingsfürsorgestellen," and one has been in successful operation at Philadelphia for a long time, with others at other points in this country. The first international congress was called the "Goutte de lait" Congress and was held at Paris in 1905. The scope of the congress has now been enlarged to include all questions relating to the welfare of infants. Dr. G. W. Goler, 127 East Avenue, Rochester, N. Y., is the chairman of the national committee for this country. Inquiries concerning the congress can be addressed to Dr. E. Lust, rue de la Limite 27, Brussels, Belgium. The International Union of all institutions for protection of child-life is a permanent association that has its seat at Brussels and superintends the organization of the congresses and perpetuates their work. An exhibition of infant hygiene will be held in connection with the congress.

Damages for Infection of Wet Nurse by Syphilitic Infant.—The *Ann. de Derm.* for January contains the text of the decisions in two recent suits in France for damages brought by wet nurses infected by syphilitic infants. In the first the infant was the child of a medical student, externe at one of the hospitals, who failed to warn the wet nurse of possible contagion, and he was sentenced to pay damages of $1,200 and costs. In the second case the wet nurse claimed damages from the mother of the child, from the director of the employment bureau that engaged her, from the physician connected with the employment bureau, who gave her a certificate stating that the infant was free from any contagious disease, from the physician sent to attend the infant by its mother, and, lastly, from the medical inspector sent by the police authorities, who failed to remove the child until after the nurse had been infected. None of them had informed the nurse of the condition of the infant. The mother of the child and her physician were condemned to pay conjointly the sum of $1,600 to the plaintiff, with costs, but the others were acquitted, as signs of syphilis were not apparent at the early date when the infant was seen by the director of the employment bureau and his physician. The medical inspector was also exonerated, as no signs of the disease were apparent at his first visit, and as the nurse was already infected at the time on his second call, according to the regular order of visits.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Feb. 9, 1907.

The Opsonic Treatment.

The opsonic method, discovered in 1903 by Sir Almroth E. Wright in conjunction with Dr. Douglas, in spite of opposition and skepticism, is making considerable progress. The principal work is being done at St. Mary's Hospital under Sir Almroth Wright and at the London Hospital under Dr. Bulloch. Most of the other hospitals have also taken it up. The time and attention required by the method is so considerable that it is impossible for the ordinary bacteriologist of the hospital to perform the work; hence it is becoming customary for a hospital to have its official "opsonist," and for a physician in general practice to call an "opsonist" in consultation in the various diseases in which the method has been successfully used. The list of diseases now treated by the method is a long one; it includes cases of staphylococcic infection, such as furunculosis, acne and sycosis; pneumococcic infections, such as empyema, cystitis and suppuration of the antrum; diseases due to the *Bacillus coli communis*, such as cystitis and various local infections; gonococcic infections, such as gonorrhea and gonorrheal rheumatism; tuberculous infections, such as lupus, ulcerations of the skin and subcutaneous tissue, arthritis, cystitis, epididymitis, peritonitis, adenitis, laryngitis, iritis and phthisis; Malta fever and typhoid fever. In an address recently delivered at the Royal Institution, Sir Almroth E. Wright delivered a remarkable forecast of the medicine of the future. Up to the present, he said, the community has devoted most of its energy to trying to kill bacteria outside the organism by hygiene and disinfection; but disease germs still lie in wait in countless millions in our food and in the air we breathe; like the poor, they will always be with us. The next advance of civilization will be to fight the disease within the organism. The doctor of the future must be an "immunisator."

The Outbreak of Cerebrospinal Fever in Belfast.

Notwithstanding the most vigorous precautions, the outbreak of cerebrospinal fever in Belfast continues to increase. Since its beginning in December, up to February 5, there have been 53 cases, with 25 deaths. Dr. Kolle of Geneva, who has produced a serum for the treatment of the disease, has sent a large quantity to Belfast. It is thought that the disease was introduced from Glasgow, where it has existed for some time. The type is very virulent; even in the most rapidly fatal cases purulent inflammation of the membranes of the brain and cord has been found. How the disease spreads is a mystery. It appears erratically in different quarters of the city, not like either an air-borne or a contact disease. At none of the hospitals has a student or a nurse contracted the disease. A medical student has died from it, but he had never seen a case. In Dublin, though the disease has not yet appeared, the corporation has decided to make it notifiable for a period of six months.

Cerebrospinal Fever in Scotland.

During January 52 deaths from cerebrospinal fever occurred in Glasgow, and 105 cases have been reported to the health officers. Since May 21, when the disease was first made notifiable, until the end of December, 205 cases have been reported. The disease also exists in other towns in the west of Scotland. In Edinburgh, also, the disease is becoming prevalent; 9 deaths occurred in the first five weeks of 1907.

Malaria in West Africa.

Commenting on the large amount of malaria which still exists in West Africa, Professor Donald Ross points out that many of the cases are due to neglect of precautions against the disease by the Europeans. Many other cases are due the fact that sufficiently energetic precautions against malaria are not carried out. However, a considerable improvement has already taken place. In the report of the army medical department for 1906 it is stated that the admissions for malarial fever had fallen in West Africa to 588 per 1,000, from an average of 1,389 in the preceding eight years. The senior medical officer reports that "the improvement is due to the antimalarial measures adopted during the last three years.

The Health of the Navy.

The recently issued report of the admiralty shows that the health of the navy was much better in 1905 than in the preceding years. There were 111,020 men in the force and the total number of cases of disease and injury was 81,568—734 per 1,000, which is a decrease of 119 per 1,000 as compared with the average of the previous eight years. Staff Surgeon A. Gaskell makes some notable criticisms on some of the physical culture systems now in vogue. He deprecates the current popular admiration for the "strong" man with huge muscles and a biceps measurement of fifteen inches. He points out that there are two kinds of strength—physical and constitutional. The former is the strength of large muscles and is acquired by the use of dumbbells and such exercises, often at the expense of the constitution. Constitutional strength is practically synonymous with health and depends on the perfect working and development of all parts, especially the heart, and least of all the muscles. The uses of great physical strength are few. A man who has a heart strained by the improper use of dumbbells is of little use as regards endurance, however large his muscles. Even if his heart is not damaged his training in co-ordination may have been neglected so as to render his large muscles useless. From an experience of thousands of men the staff surgeon finds that the physically strong man stands the inroads of disease badly. The straining of the heart and circulatory system leads to valvular incompetence, atheroma, and aneurism. Straining of the lungs leads to emphysema and fibrosis.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, Jan. 25, 1907.

Physicians' Fees to be Increased.

The increase in price in all articles of daily life has exerted its influence especially on the profession, who by long custom, are expected to "keep up appearances," and to live in a way which severely taxes the income of a physician. Therefore, in a mass meeting held recently, a resolution was adopted in which the necessity of raising the charges for professional aid was upheld, and all members of the Vienna medical faculty, together with the professors and consulting physicians, were requested to inform their patients of the new plan. Furthermore, it was decided to announce the fact to the general public by means of the daily press and private notices. At the same time the Vienna Medical Council took the matter in hand and published a new tariff, which is intended to serve as a basis for the calculation of medical fees. The tariff of the Aerztekammer is meant to be a minimum tariff, below which no practitioner is expected to charge (in Vienna). The lowest fee for an office consultation is fixed at forty cents in poor districts and sixty cents for the better class of patients. At least double this is to be charged for a house visit. Night visits are to be charged as two day visits. Heretofore the general practitioner has rarely received more than forty cents for a consultation or sixty cents for a visit, while specialists rarely get more than $1.25 for a consultation during office hours. The fees for a professor vary from $2 to $6, while as much as $20 has been paid for consultations in the houses of patients of the middle classes. It is anticipated that the increase of the fees will at first seem to diminish the income of the practitioner, because he will be less often called for, but in time matters will become undoubtedly better, and that is the object of the new regulations.

Pay Wards in the Vienna Hospitals.

The government, as possessor of the public hospitals, is trying a new scheme in order to do away with the chronic deficit of charitable institutions, but it is much to be regretted that the increase of the income is to come out of the pockets of the practitioners. The plan is as follows: A number of beds are to be set aside in each ward for the use of patients of the middle class, who can afford to pay at least $1.25 a day, and small rooms with one bed only will be provided for those who are willing to pay $2 a day for that accommodation. The drawback, at least as far as the profession is concerned, is the stipulation that only the members of the hospital staff shall treat the patients in these wards, and the family physician will not be allowed to continue his professional attendance on the patient who has entered the pay ward. This restriction meets, naturally, the severest opposition in medical circles, but several more or less vigorous protests from medical bodies, and even from the staff of hospital consulting physicians, have as yet been ineffectual.

Precautions Against Claims for Unnecessary Operations.

The hospital directors have resolved to make each patient, who consents to undergo an operation, sign an agreement to permit the surgeon to remove any organ or part of it, or to sacrifice any part of the body during the operation, if he deems it absolutely necessary to do so. In the case of patients who, on account of age or mental condition, are not capable of understanding what the written agreement means, the nearest relatives have to give consent. This proceeding has become necessary because of two recent claims for damages for alleged unauthorized removal of parts.

Pharmacology

Simply a Matter of Common Honesty.

Under this title the *Pharmaceutical Era* (Jan. 17, 1907), comments on the answers of the officials of the Department of Agriculture to inquiries regarding the meaning of the Food and Drugs Act. The following phrases are frequently met: "Misrepresentations of all kinds are forbidden. If the firm is purely fictitious, the use of the name would undoubtedly be a misrepresentation. Many firms of standing have in the past handled goods of the best grade under their rightful name, but have created fictitious hypothetical and imaginary names purely for the purpose of dealing in inferior, adulterated and even spurious articles to which they are ashamed to have their honorable legal name attached. In other cases such names are assumed solely for the purpose of evading responsibility."

The interpretation of the new law is such as to require straightforward simple honesty and such interpretation should be made to cover all forms of misrepresentation. That this is the purpose of the officials is indicated by the replies of Dr. Lyman F. Kebler to queries involving the right to use names equivalent to those specified in the law. In answer to query 29 he states: "The law uses the word opium for the 'concentrated extract of *Papaver somniferum*' and the term 'opium' is the only one that can be used in declaring the presence of this drug on the label."

Q. 30.—Would it be satisfactory to use "Phenylacetamide" or the U. S. P. phrase "The monacetyl derivative of aniline" or the following formula, $C_6H_5NH(CH_3CO)$ for acetanilide as indicated in regulation 17 (f)?

"A.—No. The law employs the word Acetanilide only for the chemical in question, and this is the only name that can be used on the label of any preparation indicating the presence of this ingredient. The word Phenylacetamide is the chemical name for two distinct chemicals and its use, therefore, would be misleading. The use of chemical formulas to designate the presence of chemicals can not be allowed."

Q. 31.—The active constituent of one of our products is trichlorethidene ethyl ether. Will it be satisfactory to use this name on the label giving the amount of the above chemical present in our product?

"A.—No. In enumerating the ingredients, the quantity or proportions of which must appear on the label of any preparation in which such ingredients may be present, the act uses only common names. Structural formula chemical names are not employed for any of the chemicals enumerated and their use for chemicals, in place of the common names is neither expressed nor implied. The name used in the law for chloral hydrate is chloral hydrate and not trichlorethidene glycol. The common name for trichlorethidene ethyl ether is chloral alcoholate, and this is the only name that can be used for the chemical in question, in connection with the Food and Drugs Act."

This is not only good law, but a clear statement of the principles of common honesty. The employment of unusual chemical terms for a public not familiar with such terms evidences a desire to conceal and to deceive. It must be admitted that physicians as a rule are not familiar with the complex terms of modern chemistry. The use by manufacturers of a term which can be understood only by a chemist when a simpler term would equally well designate the product is evidence of a desire to conceal the true composition and does not reach the ideal of common honesty set up by the law.

Examination of Proprietaries in Germany.

The *Apotheker Zeitung*, Dec. 19, 1906, page 1071, gives the results of an investigation of sajodin by F. Zernik. This is one of many similar reports of investigation carried out in the Pharmaceutical Institute of the University of Berlin, at the request of the German Apothecaries Society. From this it will be seen that this society is doing work very similar to that of the Council on Pharmacy and Chemistry of the American Medical Association. The investigations of the institute are further utilized to determine the characters of new remedies as a preliminary to their eventual introduction into the German Pharmacopeia. According to the report, sajodin is a calcium salt of mono-iodo-behenic acid intended as a substitute for the metallic iodids to replace iodized sesame oil or iodipin, which has the objection of oily consistence and somewhat unpleasant taste. The product is put out by the well-known Farbenfabriken vorm. Friedr. Bayer & Co., of Elberfeld, and also by the Farbwerk vorm. Meister, Lucius & Bruening, Hoechst, a. M. As a definite chemical compound its composition should be unvarying. The investigations of Zernik showed, however, a considerable variation in the amount of iodin which in some samples was much too low, while the calcium was too high. The amount of moisture also varied. On communicating these results to the manufacturers they acknowledged the defect and promised that henceforth a preparation with a guaranteed minimum of iodin should be put on the market. This variation in the product of a reliable firm shows the need of inspection and control of synthetic products even when made under most favorable condition and by firms whose name is usually taken as a guarantee of reliability.

Sale of Cocain Nostrums Prohibited in Massachusetts.

According to the *American Druggist*, Oct. 29, 1906, the State Board of Health of Massachusetts has authority, by public notice in such trade journals or newspapers as the board may select, to forbid as unlawful the traffic in, or gift of, advertised remedies containing cocain or any of its salts, or alpha-cocain or beta-eucain or any synthetic substitute of the aforesaid. In pursuance of this authority, the board has given notice that the sale of Crown Catarrh Powder (Crown Pharmacal Company, New York), Dr. Agnew's Catarrhal Powder (Anglo-American Medicine Company, Chicago, Toronto and London), and Instant Cold Relief and Instant Catarrh Relief (I. C. R. Medicine Company, 168 Massachusetts Avenue, Boston) is contrary to the provisions of Chapter 386 of the Acts of 1906. Fines have been imposed under the law, although the defendants pleaded ignorance of the advertising of this remedy. The board has also forbidden the sale of Pretzinger's Catarrh Balm (R. Pretzinger & Bro., Dayton, Ohio), and Dr. Cole's Catarrh Cure (The Cole Medicine Company, London, New York, Chicago).

Importation of Nostrums Into Italy.

The Italian minister of the interior has issued a circular giving the conditions under which proprietary medicines may be imported. The importation of these remedies, says the *Pharmazeutische Post*, is forbidden without special authorization by the Superior Sanitary Council. The application for such a permit must give the qualitative formula of the preparation with the place and method of manufacture (at least in outline) and the formula of constitution and doses must be placed on the package and in the directions intended for the public. The therapeutic uses must be specified and it is forbidden to attribute to any preparation therapeutic virtues other than those which really are possessed by its components. The product intended for importation must have conformed with all the regulations of the country from which the importation is made and the importer is required to produce documentary evidence of this fact.

Incompatibility of Sodium Chlorid and Calomel.

The incompatibility of common salt and calomel is the subject of an investigation by Carracido (*Rev. de Med. y Cir. Pract.*, Aug. 14, 1906; abs. in *Münch. med. Wochschr.*, Oct. 30, 1906). Corrosive sublimate is formed by the reaction between these substances, but in such small amounts that no bad results are to be feared from it. In the opinion of Carracido such a formation of mercuric chlorid is essential for the development of the activity of calomel. Puerta states that the amount of corrosive sublimate formed is greater in proportion to the amount of sodium chlorid that is mixed with the calomel and to the height of the temperature.

Nostrum Advertising in Religious Papers.

Dr. G. D. Thomas of Chicora, Pa., writes:

"Regarding the discussion of the impropriety of the religious papers accepting "patent-medicine" advertisements, permit me

to say that the Pittsburg (Pa.) *Christian Advocate* formerly contained such advertisements. Some five or six years ago I corresponded with the editor regarding the matter and he expressed his dissatisfaction with the situation and referred me to the business manager. I do not recall how often I wrote the latter, but I am sure I called his attention to the fraudulent claims of some of the advertisements in the paper. For over a year now they have been discontinued. I do not know that my writing hastened matters, but I believe it contributed in a measure to the change. If all physicians who are readers of these religious papers would take pains to protest repeatedly, all such periodicals would in time be cleaner in their advertising columns."

[In his letter our correspondent has gone straight to the mark. Papers and magazines, whether religious, medical or secular, are like public officials, exactly what the public makes them. Reforms must come from the readers. They must not be expected to come from the business management. If the readers and subscribers of religious papers want religious journals which are free from deceptive and dishonest advertising, they can easily get them, if they will make the management of such papers understand their wishes.]

Methods of Nostrum Vendors.

The methods of the nostrum vendors have a remarkable similarity in foreign countries as well as here. Neustätter (*Münch. med. Wochschr.*, Sept. 25, 1906), calls attention to the efforts to mislead medical men made by the promoters of antipositin, the notorious nostrum which has been put forward with such extravagant claims as a means of reducing corpulence. He quotes a circular which refers to the important articles that have appeared in the medical press regarding the remedy. The shamelessness of this proceeding, says Neustätter, is shown by the fact that the articles which have appeared have warned against the use of the nostrum. According to the analysis of F. Zernik (*Apotheke-Zeitung*, No. 81, 1906), this remedy consists of sodium citrate, 28.5 parts; sodium tartrate, 20; sodium bicarbonate, 18; sodium chlorid, 12; purified tartar, 9; tartaric acid, 6; dried carbonate of sodium, 6, and magnesia usta, 0.5. It would seem that the composition of the mixture has been changed since its first introduction.

Correspondence

The New Infectious Disease.

NEW YORK CITY, FEB. 2, 1907.

To the Editor:—Dr. Hirshberg, I fear, is not modest in claiming the credit of having discovered a new infectious disease (THE JOURNAL, Feb. 2, 1907, p. 416), and branding the work of those who long before him wrote on this subject as "so very obscure, faulty and incomplete." The paper of mine which Dr. Hirshberg quoted (*Amer. Medico-Surg. Bull.*, Dec. 26, 1896), speaks of an epidemic of a "Peculiar Form of Hyperpyrexia" which I observed in 28 children under 14 years of age. The fever developed very suddenly, ranged between 104 and 106 F., continued almost uninterruptedly for from two to three and a half weeks, and ended either by crisis or lysis, leaving the children in apparently perfect health. The rapidity of the pulse and respiration varied with the height of the temperature. There were no roseola, enlargement of liver or spleen, diarrhea, delirium, insomnia, or headache. Some patients presented mental dulness and disturbance of hearing and speech. I strongly emphasized the fact (giving full details) that very careful bacteriologic and microscopic examinations of the stools, urine and blood proved the absence of malaria, typhoid or influenza. I also mentioned that post-mortem examination of a tuberculous child who succumbed to this fever failed to show any lesions suggestive of malaria or typhoid. Finally I made an effort to differentiate this affection from several other similar fevers.

H. B. SHEFFIELD, M.D.

The preceding letter was submitted to Dr. Hirshberg who makes the following reply:

BALTIMORE, FEB. 6, 1907.

To the Editor:—Dr. Sheffield takes a very unkind attitude toward the simple announceme of an undifferentiated infectious disease. Far be it from me to claim anything that justly belongs to another.

So far as I can find, there has been no claim made by me of "discovery." Nor do I wish any honor or credit for publishing observations, strictly objective. If the cases described in the several papers by me are the same as Dr. Sheffield's, there will be honor enough for me in having called the attention of the medical world to his paper of eleven years ago. But as his own letter points out a few of the many differences between his cases and mine, I shall briefly repeat them:

Sheffield's Cases.	*Hirshberg's Cases.*
Epidemic.	Sporadic.
Children under 14.	Young adults over 18.
Rapid pulse.	Slow pulse.
Rapid respiration.	Not accelerated.
Termination, crisis and lysis.	Gradual (lysis).

When I mentioned lack of data, I referred only to additional methods of examination which have crept into our technic in the intervening eleven years.

LEONARD KEENE HIRSHBERG.

Esperanto—The International Language.

SACRAMENTO, CAL., Feb. 11, 1907.

To the Editor:—Kindly permit me to suggest and to urge the early establishment in THE JOURNAL of a department of Esperanto, on the following grounds:

1. Esperanto is the one and only proposed international language which has successfully borne the scrutiny both of scholars and of men of affairs.

2. The adoption of Esperanto as the international language would be the most powerful promoter of universal peace imaginable—infinitely more effective than Dreadnaughts or any other kind of "big stick" and immeasurably less expensive. In blood and treasure what does armed peace cost the world?

3. The adoption of Esperanto as the international language would be the most powerful promoter of the diffusion of knowledge of which it is possible to conceive. Free trade in knowledge! The freedom of the vast realm of science and art and literature for a few days' study! That imagination must be dull, indeed, which does not kindle at the thought!

4. A reading knowledge of medical Esperanto could be acquired in a few days by a physician of fair intelligence.

5. THE JOURNAL, as the official mouthpiece of the largest organized body of men in the world whose first duty it is to prevent death (and why not death by war as well as death by disease) and whose chief means of preventing death is the diffusion of knowledge, should be among the foremost in the great work so happily begun by Dr. Zamenhof.

W. A. BRIGGS.

[We willingly give space to the above letter, because we would like to see a universal language, but we fear that the majority of our readers will think that the propaganda of this idea is not the function of a medical journal.—ED.]

A Summary of the Therapeutic Field.

NEW YORK, Feb. 5, 1907.

To the Editor:—Dr. J. W. Robinson, McCammon, Idaho, has kindly called my attention to two inaccuracies in my address, published in THE JOURNAL Sept. 1, 1906. (1) Nitrous acid should read nitrous oxid. (2) The sentence stating that chemically scopolamin is the same as *atropin*, etc., should read it is the same as *hyoscin*, etc. Other matter explanatory of difference in action of those alkaloids was unintentionally omitted from the typewritten copy, and as I was in Europe when the proof was forwarded I could not correct it.

THOMAS F. REILLY.

Not Responsible for Discussion as Published.

CHICAGO, Feb. 18, 1907.

To the Editor:—My discussion of Dr. Ohlmacher's paper which was published in the last number of THE JOURNAL was published against my desire and without my knowledge. The report of the discussion was not proof read by myself.

JOHN C. HOLLISTER.

Miscellany

Supervision of Midwives.

In February, 1906, an investigation of midwifery practices both abroad and in this country was undertaken in New York City by a body of representative men and women. The results of this investigation are given by Miss F. E. Crowell, assistant secretary of the New York state branch of the Public Health Defense League, in *Charities and the Commons*, Jan. 12, 1907. Miss Crowell begins her article by a brief review of the history of midwifery, which she states is as old as the human race. During thousands of years the care of parturient women was practically in the hands of midwives. If an unusual or dangerous complication arose a physician was called to assist in the delivery, but the process of labor was considered a natural, normal occurrence, requiring no interference or aid except that to be obtained from women experienced in this work. Gradually as medical science developed and the art of obstetrics was taken up by physicians, the midwife, while she did not actually retrogress, at least stood still. Universities were closed to her and opportunities for improvement were denied, with the inevitable result that midwifery ceased to be regarded as a profession and there was a lowering of the standards which had hitherto prevailed among women who had devoted themselves to this calling. The introduction of the forceps gave physicians an advantage, and in the seventeenth century, in France, it became fashionable to employ a physician instead of a midwife. The women of the masses, however, have continued to demand aid from their sister women, and economic conditions have kept alive the calling of the midwife till to-day.

Early in the nineteenth century Europe seems to have accepted the fact that midwives constituted an inherent part of the social order—a force to be guided and controlled, rather than ignored and opposed. As a result, many European countries provided for the examination and licensing of these women; England alone refused to enact legislation affecting midwives till 1902. To-day the training and duties of midwives are practically the same in all European countries. They are admitted to lying-in asylums for poor women and are taught cleanliness and the physiology of labor theoretically as well as practically. The European midwife is under supervision during her entire lifetime. Her equipment is inspected, she is prosecuted in case of neglect, and for neglect her license may be revoked.

In this country little supervision is exercised over these women; in some states they are compelled to take an examination. In New York, Miss Crowell states that the majority of midwives are ignorant, untrained women who find in the natural needs and prejudices of the parturient women of their race a lucrative means of livelihood. In the investigation 500 women were visited, and of this number 51 were unable to read or write, while 30 per cent. were unable to speak English. Two hundred and one held foreign diplomas. This means that 40 per cent. of the number had been properly trained and had given evidence of certain required standards of proficiency. Forty-three per cent. held diplomas from so-called schools of midwifery in this country, or certificates from physicians, who, says Miss Crowell, for reasons best known to themselves, have in many instances seen fit to certify to the proficiency of ignorant, incompetent women. Of the 500 women visited Miss Crowell states that less than 10 per cent. could be considered capable, reliable women. In some cases Miss Crowell found that the diplomas from American schools had been given to women who could neither read nor write, but who had the price—$66. There are four such schools in New York City, she states. Midwives holding these diplomas told Miss Crowell of being sent to their first case alone, of having to conduct the entire labor as best they could, and of their fear that they might, on their return, find the patient dead. The bags and equipment of the majority of these women, Miss Crowell says, would make fit decorations for a chamber of horrors. Rusty scissors, dirty string, a bit of cotton, a few corrosive tablets, old rags and papers, some ergot and vaselin, and a gum catheter, wired, were the usual contents. Many of the women had complete portable sterilizers which they had been compelled by law to use in Europe, and when asked why they did not use them here, replied: "It is not necessary; nobody cares what we use; the bag is handier, and everyone uses it here." Some women who had no bags carried string in their pockets and scissors attached to their belts, or would depend on whatever they chanced to find at the patient's home. Of the entire 500 visited, Miss Crowell states that less than 10 per cent. could be qualified as competent midwives. A few women were found who washed the child's eyes with boracic acid, and a still more limited number who used the silver nitrate prescribed by the board of health.

Miss Crowell also calls attention to the evils of allowing a midwife to sign a death certificate in the case of a stillborn child. It is impossible to estimate, she says, how many of these cases are actually stillbirths and how many the result of criminal interference with pregnancy. Nearly all the midwives visited carried wired catheters, showing that they were in the habit of interrupting pregnancy, while some carried uterine curettes, dilators, pessaries, etc. In New York state there is special legislation regulating the practice of midwifery applying to Erie, Monroe, Niagara and Chautauqua counties, but Miss Crowell found that while this law has operated toward raising the standard of efficiency among midwives in those sections of the state, the enforcement of the limitations under which the licenses are granted is entirely neglected. In proof of this statement Miss Crowell relates interviews with some Buffalo midwives, whose obstetric bags were quite as dirty as that of the average New York midwife.

Leprosy Conference in Argentina and Leprosy in General.—The resolutions adopted by the delegates from the various provinces at this conference, held recently at Buenos Ayres, advocated compulsory notification and isolation of all cases of leprosy. The direct or indirect transmissibility of the disease was emphasized, and the appointment of medical officers at the ports to prevent the admission of lepers was also advocated, with research by experts on the various mosquitoes of the different provinces where leprosy is on the increase. The passage of a national public health bill was also urged. The *Semana Medica* has published some of the detailed reports of the delegates. In Corrientes the proportion of lepers has increased by 82.5 per cent. since 1898 and it is now 0.87 per thousand for the entire country. In British India it is cited as 0.33; in Hawaii, 15 per cent.; in Colombia, 7.5 per thousand; in Brazil, 0.19, and in Argentina 0.87 per thousand, but in certain provinces the proportion reaches 3.43 per thousand. A. B. Pont cited a number of instances of conjugal leprosy, and also of double and triple conjugal contagion. Many of the cases cited by others as inherited leprosy are much more probably due to direct contagion, he thinks. In his experience the children of lepers, if removed at once from the home environment, escaped the disease. On the other hand, healthy children suckled by leprous nurses acquired it. Apparently sporadic cases of leprosy always proved to be merely remote links in the leprosy chain. In the province of Corrientes the disease affects the well-to-do more than the poor. He urged sanitarium treatment of the lepers in an isolated colony on some island off the Atlantic coast, believing that clinical cure may in certain cases be attained by appropriate treatment.

An endemic focus of leprosy has recently been discovered in Switzerland; 6 new cases have developed since 1898, although only 17 are known in the entire country. Jadassohn urges isolation of lepers in the endemic focus in a special colony, allowing visits from friends. (*Cor. Bl. f. schw. Aerzte*, xxxvii, Nos. 1-2). He advises notification of all cases and investigation of the home conditions by experts to decide whether the patient should be isolated or allowed to remain at home under medical oversight, the general government to assume all or part of the expense of isolation, and to enact a general law along these lines in respect to leprosy, endemic or imported. Since the discovery of the focus at Memel, Germany has enforced strict regulations against leprosy. In France and some other countries physicians have urged the importance of regulation but nothing official has been done, and physicians do not know what to do with a leper patient when one is encountered. Eichhorst, for example, relates the

case of a boy sent from Brazil to school in Switzerland who developed symptoms of leprosy three months after his arrival in 1905. He would not be readmitted to Brazil if sent back.

The Teaching of Anatomy.—The position of anatomy in America, according to Prof. F. P. Mall (*Science*, Jan. 25, 1907), has varied according to the view taken of its purpose and scope. Under the influence of so-called practical methods it was made largely a stepping-stone to surgery, and the progress of anatomic science and its effective teaching to medical students was thereby hindered. The result was a decadence in American anatomy which found its most worthy representatives not among medical men, but among zoologists, biologists, etc. In some universities a thoroughly trained professional anatomist taught the subject in the department of pure science, while the position of teacher in the medical school with its wider opportunities for influence and usefulness was filled by a physician or surgeon engrossed with other professional interests. Naturally the result of this division was that much of the best work of Europe was known in this country to but few and the conception and sphere of anatomy were unduly restricted. A new development in medical teaching is going on. While anatomy is well represented in college and university departments not connected with medical schools, we must look for the highest development to anatomy in connection with medical education. In order to be more effective in the training of scientific physicians we are gradually making our anatomic instruction more and more inductive and this naturally reacts on the instructor in a beneficial way. The study of anatomy begins with the cell and ends with the entire individual and in a medical school should include histology, histogenesis and embryology, and should cover vertebrate anatomy in the fullest sense. Investigation should be encouraged for scientific reasons regardless of the immediate prospect of practical application. Medical schools are largely hampered in this respect by the fact that anatomic professorships are unendowed and are held by men who, not being professional anatomists, have rarely the time to devote to teaching students nor the requisite training to enable them to develop the department properly. The proper advancement of anatomy demands the coöperation of many more productive anatomists. The effort of the Association of American Anatomists devoted to the advancement of anatomic science will result in bringing the best men together, and it is to be hoped that those in authority in various communities will recognize the broader scope of anatomy and seek productive anatomists, when vacancies occur, so that this grand science may be raised to the level it has always held in Europe.

An Estimate of Eddyism.—Because of a decision rendered against an Eddyite, Judge Gray of Indiana was attacked through the public press. His answer is so terse and pointed that it is worth quoting:

"The argument that people get well under their ministration, and that many people believe in the doctrine, proves nothing. Thousands of people got well without medicine or prayer or faith hundreds of years before Mrs. Eddy was born. Every educated physician knows that the inherent recuperative forces of the human organism tend to restore the afflicted. The doctor seeks to aid by furnishing favorable conditions. Nature heals a cut. It is only the simpleton who would sing or pray when the gaping wound ought to be sewed up. A broken leg will get well after a fashion, without treatment of any kind, but much sooner and better under intelligent coaptation. Prayer won't set a broken leg and it is humbug to talk about it. Prayer will not destroy the germs that cause consumption, malaria, typhoid, diphtheria or even the itch. The human organism cures, medicine assists. That some good people believe in Christian Science proves no more in its favor than the same fact proves the infallibility of Mormonism or Mohammedanism. Some people will believe anything, especially if afflicted in body and mind. Sometimes the more ridiculous the proposition the more intense the faith. And then, again, Christian Scientists claim that it is God that does the curing, and that they are the only fellows that can get him at it. What do you think of that? Now, if God is going to give direct assistance in curing the sick, why should he not aid the Christian physician who probably knows more about science than a carload of so-called healers? Christian Scientists claim to be the only fellows that are obeying the 'dual commandment' to preach the gospel and to heal the sick. Better turn and reread that commandment again. Here it is: 'Go ye to the lost sheep of the house of Israel, and as you go, preach, saying, the kingdom of heaven is at hand. Heal the sick, cleanse the lepers, raise the dead, cast out devils.' This is the golden text of Christian Scientists. They scold the people because they only preach, while they do the whole thing. But they don't. They violate the commandment constantly. First, they are commanded to go to the lost sheep of the House of Israel. They don't do it at all. They never treat a Jew. Not much. The Jews are too smart to be caught that way. They work on the Gentiles exclusively."

Comment seems superfluous except to add that the points brought out by the judge are so self-evident that it seems strange that educated people can be found who will believe such preposterous nonsense as is the "philosophy" of the followers of Mrs. Eddy. It is a psychologic study of no mean proportion to determine what the etiologic factors are which bring about the mental state necessary to the acceptance of such an absurd combination of truth and fallacy.

Official Report on Thyroid Treatment of Endemic Cretinism.—THE JOURNAL called attention on page 848 of vol. xliii, 1904, to von Jauregg's success with thyroid treatment of cretinism on a large scale. His latest report on the subject is published in the *Wien. klin. Wochschr.* for Jan. 10, 1906, xx, No. 2, page 33. Three years and more have passed since treatment was commenced in nearly a hundred cases, and the results are tabulated under various headings. All degrees of cretinism and all ages were unmistakably benefited by the treatment, but the finest results were obtained with the younger children. Complete cure is the rule in the milder cases, without serious impairment of the hearing, when treatment is begun in early infancy (at six weeks in one case). The enlargement of the tongue and of the thyroid are the most positive signs of cretinism in the infant. The shape of the nose and the complexion are not characteristic at this early stage, and the myxedematous swellings are not observed until after the end of the first year. Early diagnosis of acquired cretinism is still more difficult. Backwardness in learning to walk and talk is the most reliable sign. In the endemic regions the parents are now being educated to watch for the early signs. One thyroid tablet is given every second day for a year or half a tablet every day, and the improvement gained persists and progresses after suspension. In some of the cases backwardness in learning to talk suggested the possibility of cretinism, although other signs were lacking. He did not hesitate to put the child on thyroid treatment with the usual prompt benefit, assuming that in an endemic focus this anomaly was possibly the insidious onset of acquired cretinism. In any event, his experience has been that the thyroid treatment is entirely harmless. He adds that sheep thyroids weighing more than 3 or 4 gm. should not be used, as they are liable to be pathologic. Goiter has been observed in sheep.

New Researches on Treatment of Epilepsy.—The *Archives de Neurologie* for September contains an article by Voisin and A. Rendu describing extensive experiences with the administration of bromids and deprivation of salt in the treatment of epilepsy. Their conclusions are to the effect that the interposition of a period of deprivation of salt and of bromid, in the midst of treatment with large doses of bromids, has a very beneficial effect in cases of "essential" epilepsy with numerous seizures. These brief periods of "dechloridation" rest the organism without entailing the inconveniences observed with other technics. They also prevent too intense action of the bromids, which in time does more harm than good as the necessary nervous reaction becomes exhausted. Increasing the amount of the bromids on an ordinary diet gives the same results as are obtained with small doses of bromids on a salt-free diet. They give 4 gm. of potassium bromid for 10 days, then 10 gm. for 10 days, with the ordinary diet during these two

periods, followed by 10 days without either salt or bromid. These doses apply to adults and generally also to young people from 16 to 18. The various details of their experiences are tabulated, showing that this dosage was worked out on the basis of wide experience with larger and smaller doses, the former proving unnecessary and the latter inadequate.

The Brain Cortex and Blood Pressure.—W. Lewandowsky and E. Weber (*Med. Klinik*, ii, No. 15) find that there is in the cortex of dogs and cats a limitable region, irritation of which causes rise of blood pressure and that it is not coextensive with the motor zone, but in cats is situated more anteriorly. The blood pressure induced by its irritation affects especially the splanchnic circulation, driving the blood toward the periphery. They have not been able, experimentally, to demonstrate relations of the cortical regions to limited regions of the body, but think it probable that such exist. Such phenomena as unilateral differences of temperature and edema in hemiplegia, when a secondary effect of the muscular paralysis can be excluded, make it seem probable that similar centers exist in the human subject.

The Arsenical Treatment of Diabetes.—H. Verdalle, Bordeaux, in *Archives Générales de Médecine*, March 20, 1906, claims that the treatment of diabetes by the saline arsenical waters of Bourboule is very effective, especially in the type characterized by hyperfunctioning of the liver. It affects alike both the glycosuria and azoturia, regulates the nutrition and causes marked improvement in the general health, often succeeding when alkalies have failed or have even been harmful. While the treatment at the local source of the waters is advisable, the exploited waters can also be of use, but, nevertheless, under the direction of a physician. Verdalle reports a number of cases and claims that in no case had the treatment at the watering place produced any inconveniences or accidents when properly carried out.

Association News

THE ATLANTIC CITY SESSION.

Arrangements for the Fifty-eighth Annual Session Well Under Way.

The following brief extract taken from the preliminary report of the Committee of Arrangements to the Board of Trustees, Feb. 1, 1907, at Chicago, is published for the purpose of announcing the general and section headquarters. The report also includes the names of the chairmen of the executive and auxiliary committees. Arrangements are already well under way, and everything is progressing very favorably. Atlantic City is preparing to give those who attend the coming session in June even better accommodation than heretofore, there being more hotels and larger ones than when the Association last met in Atlantic City. Special attention is being given to locating the section headquarters in hotels directly on the beach front and contiguous to the Boardwalk. The section meeting places are being grouped as closely together as rooms providing commodious accommodation can be obtained. It will be the endeavor of the Trustees' committee, ably assisted by the auxiliary committee, to provide for the members of the Association the greatest amount of comfort, within a short radius, and at a minimum expense, as is shown by the following memoranda:

HEADQUARTERS.

GENERAL HEADQUARTERS, MARLBOROUGH-BLENHEIM.

PRACTICE OF MEDICINE: Hotel Dennis.
SURGERY AND ANATOMY: Hotel Chalfonte.
OBSTETRICS AND DISEASES OF WOMEN: Haddon Hall.
DISEASES OF CHILDREN: Hotel Traymore.
NERVOUS AND MENTAL DISEASES: Hotel Brighton.
OPHTHALMOLOGY: Hotel Seaside.
LARYNGOLOGY AND OTOLOGY: Hotel Strand.
PATHOLOGY AND PHYSIOLOGY: Hotel Shelburne.
HYGIENE AND SANITARY SCIENCE: Hotel St. Charles.
PHARMACOLOGY AND THERAPEUTICS: Hotel Marlborough.
CUTANEOUS MEDICINE AND SURGERY: Hotel Marlborough.
STOMATOLOGY: Hotel Traymore.

General headquarters for registration, information, commercial exhibits and scientific exhibits, will be on Young's Pier.

LOCAL COMMITTEE.

The following is the local or auxiliary committee:

CHAIRMAN FOR BOARD OF TRUSTEES A. M. A.: Philip Marvel, M.D., 1616 Pacific Ave.
LOCAL CHAIRMAN: W. Blair Stewart, M.D., Pacific and North Carolina Aves.
SECRETARY: Edward Guion, M.D., 1408 Atlantic Ave.
TREASURER: J. A. Joy, M.D., 1920 Pacific Ave.
HALLS AND SECTION MEETING PLACES: Walt P. Conaway, M.D., 1723 Pacific Ave.
COMMERCIAL EXHIBITS: Edward Guion, M.D., Atlantic Ave.

(All correspondence concerning the reservation of space for exhibits should be addressed to the American Medical Association, 103 Dearborn Avenue, Chicago.)

REGISTRATION: E. H. Harvey, M.D., 20 N. Florida Ave.
BUREAU OF INFORMATION: Milton S. Ireland, M.D., 25 S. California Ave.
BADGES: Clara K. Bartlett, M.D., 10 N. Carolina Ave.
HOTELS: W. E. Jonah, M.D., 1616 Pacific Ave.
FINANCE: Eugene L. Reed, M.D., Pacific and Virginia Aves.
GENERAL ENTERTAINMENTS: Emery Marvel, M.D., 811 Pacific Ave.
SECTION ENTERTAINMENTS: J. W. Snowball, M.D., 1519 Pacific Ave.
LADIES' ENTERTAINMENT: Mrs. A. D. Cuskaden, 2 S. Michigan Ave.
PROGRAM AND PRINTING: George Scott, M.D., 1109 Pacific Ave.
SCIENTIFIC EXHIBITS: E. J. Porteous, M.D., 811 Pacific Ave.
RECEPTION: (To be named).

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

FORMULA OF CASTORIA.

WASHINGTON, D. C., Feb. 9, 1907.

To the Editor:—Can you give me any information regarding the composition of castoria, manufactured by the Centaur Company, New York? I wrote to this company nearly a year ago, but have received no answer. Castoria is extensively used in Washington as a laxative and "soothing" agent. I am told that in addition to its laxative effect it makes babies sleep. A patient who has observed this effect in her own child told me that her sister kept her baby "under the influence" of castoria all the time.

B. M. RANDOLPH, M.D.

ANSWER.—According to the patent, the formula is as follows: To 135 pounds of senna leaves add 35 gallons of water at 65 C., in which has been dissolved 48 ounces of sodium bicarbonate. Exhaust the senna by percolation until 240 pounds are obtained. In this dissolve 210 pounds of sugar and 4 ounces of Rochelle salts, then add spirits of gaultheria, 18 pints, and spirits of pepo, spirits of chenopodium (wormseed), spirits of peppermint and spirits of anise, of each 2 ounces. The patent on the process having expired by limitation some years ago, it was discovered that the name also reverted, along with the process, to public use, and various parties began the manufacture of castoria. The owners of the original patent began legal proceedings against the infringers and succeeded in all but one instance in prohibiting any one from making castoria or vending any article under that name except that made by them. In one instance the case was carried to the United States Supreme Court, which, in an opinion written by Justice Brewer, held that the patent on the process having expired, the name "Castoria," being the only name to designate the article, became a common name and therefore free for use. The design, style and signature of the package being copyrighted can not be imitated, hence the tremendous effort on the part of the original manufacturers to familiarize the public with the signature of a person who manages the business for the present owners. Dr. J. G. Reinberg, McBain, Mich., in THE JOURNAL, March 17, 1906, reports the case of a child, aged 10 months, who became comatose and whose pupils did not react to light after having received half a teaspoonful of castoria.

POISONING FROM OIL OF TANSY.

SHILOH, OHIO, Feb. 4, 1907.

To the Editor:—During the past six months several cases of poisoning from oil of tansy have been reported in THE JOURNAL, and I wish to add another. I was called to see a young married woman, aged 20, and found her in a semiconscious condition, from which she was rather easily roused. She vomited considerably and the vomitus contained some bright red blood, which evidently came from the stomach. Respiration and pulse were increased and the pupils were dilated. The woman complained of severe abdominal pain, for which I administered morphin, gr. ⅙, hypodermically. Further treatment consisted of rest in bed, calomel followed by a saline, and then a mixture of pepsin and bismuth to relieve the vomiting, which recurred at intervals for several days. The woman made a complete recovery in about twelve days. She acknowledged having taken a dram of oil of tansy with the intention of producing abortion; this result, however, was not attained.

N. P. MCGAY, M.D.

ANOTHER CURE FOR INCURABLE DISEASES.

Dec. 26, 1906.

To the Editor:—Your address has been given to me by Dr. ——— of our city, who thinks that you may be able to assist me in reaching Dr. Denslow mentioned in the newspaper clipping enclosed. I have been waiting for some months, hoping to see the matter reported in our American medical papers, but now take this action in an effort to be able to reach Dr. Denslow by letter. I am suffering from locomotor ataxia and have just been compelled to give up my employment. I have been very much helped up by the hope that Dr. Denslow may be able to cure me, or at least better my condition to enable me to do my work. * * *

The clipping is as follows:

LOCOMOTOR ATAXIA CURABLE.

London, April 18.—A cure for locomotor ataxia has been discovered, according to the *Express*, by Le Grand Norton Denslow, an American doctor living in London. Already, the paper says, Dr. Denslow has effected several remarkable cures. He promises to take the medical profession into his confidence as soon as he perfects the details of the discovery. The disease has hitherto been considered incurable, though it has been possible to stay its progress.

ANSWER.—To this letter (from a layman), so characteristic of the average unfortunate sufferer who grasps at any hope of relief, and written because of an alleged news cablegram that bears so many ear-marks of fraud, we replied, regretting very much the necessity of discouraging our correspondent, that the announcement of a cure for incurable diseases is a not uncommon preliminary to a further advertisement of some "patent medicine." (Our readers will remember the Bioplasm clipping, so similar in some respects, on which we commented in THE JOURNAL, Nov. 18, 1905, page 1587.) We said further that we would endeavor to learn something further from London.

We now learn from our London correspondent that on June 9, 1906, an American, giving the name of Le Grand N. Denslow, was summoned before the police magistrate of Marylebone and fined $150 and costs for falsely using the title of doctor of medicine. It is stated that the evidence showed that the defendant had taken rooms at 38 Harley street, and that he had advertised widely that he was able to cure locomotor ataxia. It is further alleged that he offered treatment at 500 guineas ($2,625), and also announced he would soon raise his price to 1000 guineas ($5,250), as the cure cost him $750. The defense claimed that Denslow was no charlatan, but was a fully qualified and highly educated medical man, and that he supposed he could use the title of "doctor" so long as he did not imply that he was an English doctor. It was stated that he held numerous medical qualifications and that he had practiced in America since 1876.

The only name resembling the above is found in the 1902 edition of the Medical Directory of New York, New Jersey and Connecticut, in which the name of LeGrand Norton Denslow appears as located at 49 W. 44th St., New York, and as a graduate of the College of Physicians and Surgeons of New York in 1876. In the edition for 1904 the same name appears with the address given as 86th St. and Broadway, New York City. There is no such name entered in the same directory for 1905 nor for 1906, neither does it appear in the new American Medical Directory. Although the names are similar, it is impossible to say positively whether or not they belong to the same individual. Our readers can draw their own conclusions from the facts submitted.

A PHYSICIAN'S EXPERIENCE WITH THE AUTOMOBILE.

CAZENOVIA, N. Y., Feb. 13, 1907.

To the Editor:—In THE JOURNAL, February 9, a letter gave the cost of running an automobile as a doctor's conveyance, and, while the figures are no doubt correct, it seems to me rather more than one should pay for the service rendered. I have a machine which cost as it stands, including lamps, etc., about $450. The car has been in use since May, 1906, has never been out of service for repairs but once, and has cost from $9 to $12 a month. The doctor, with some mechanical ingenuity, who really wishes to use a car of light weight as a substitute for horses, and who is willing to do his own repairing and adjusting, may figure his running expense at $15 a month for a mileage equal to two good horses. One must remember that the highways were built for horse-drawn vehicles, and if a machine is driven at high speed, the driver must expect to pay well for his fun. As a rule my car is driven ten or twelve miles an hour, which is as rapid as comfort and safety will permit in this hilly country. The time required to keep the [redacted] running properly is about three hours a week. This does not include the time spent in washing the machine.

F. D. KEPPEL.

BARTLETT METHOD OF CATGUT STERILIZATION.

HOLYOKE, MASS., Feb. 14, 1907.

To the Editor:—Kindly give me in your Queries and Minor Notes column the address of Dr. Bartlett, originator of the Bartlett method of catgut sterilization? S. A. MAHONEY.

ANSWER.—Dr. Willard Bartlett, 4257 Washington Boulevard, St. Louis.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 16, 1907:

Maus, Louis M., deputy surgeon general, ordered to inspect all posts in the Department of Texas.

Brown, O. G., asst.-surgeon, granted two months and 20 days' leave of absence.

Wilson, Compton, asst.-surgeon, resignation of his commission as an officer of the Army has been accepted by the President, to take effect Feb. 15, 1907.

Buck, C. D., asst.-surgeon, having completed the duty for which he was ordered to this city, will return to his proper station, Army General Hospital, Presidio of San Francisco; granted 12 days' leave of absence.

Krebs, Lloyd Le R., asst.-surgeon, granted five days' leave of absence.

Heard, Geo. P., asst.-surgeon, leave of absence extended 30 days.

Deshon, George D., surgeon, detailed member Army Retiring Board to meet at Omaha, Neb., vice Lieut.-Col. John M. Banister, deputy surgeon-general, hereby relieved.

Devereux, J. R., asst.-surgeon, resignation of his commission as an officer of the Army has been accepted by the President, to take effect June 30, 1907.

Gregory, Junius C., asst.-surgeon, relieved from temporary duty at Presidio of Monterey, Cal., and will proceed to San Francisco, and take station at that place, resuming his duties in the Army Transport Service.

Rich, Edwin W., asst.-surgeon, appointed member of examining board to meet at Madison Barracks, N. Y.

Sievers, Robert E., contract surgeon, left Fort William Henry Harrison, Mont., and arrived at Fort Keogh, Mont., for temporary duty.

Brown, W. E., contract surgeon, returned to duty at Fort Walla Walla, Wash., from leave of absence.

Chase, Alpha M., contract surgeon, left Fort Sam Houston, Tex., on leave of absence for one month.

Pinquard, Joseph, contract surgeon, returned to duty at Fort Leavenworth, Kans., from leave of absence.

Stone, Frank P., dental surgeon, returned from Fort Bliss, Texas, to Fort Sam Houston, Texas; ordered to Fort McIntosh, Texas, for emergency work.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Feb. 16, 1907.

Schwerin, L. H., acting asst.-surgeon, detached from the *Celtic*, when placed out of commission, and ordered to the Naval Hospital, Norfolk, Va.

Heiner, R. G., asst.-surgeon, ordered to additional duty at the Naval Proving Grounds, Indian Head, Md.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 14, 1907:

White, J. H., surgeon, directed to proceed to Jump Point, La., for special temporary duty, on completion of which to rejoin station at New Orleans.

Cofer, L. E., P. A. surgeon, relieved from temporary duty at Ellis Island, N. Y., effective Feb. 3.

Cofer, L. E., P. A. surgeon, granted leave of absence for 16 days, beginning Feb. 4.

Cofer, L. E., P. A. surgeon, directed to proceed to Coatzacoalcos and Salina Cruz, Mex., and San Francisco, for special temporary duty, on completion of which to rejoin his station at Honolulu, Hawaii.

Glover, M. W., P. A. surgeon, granted 5 days' leave in January, 1907.

Glover, M. W., P. A. surgeon, leave of absence granted for one month from Jan. 12, 1907, amended to be effective from Jan. 23, 1907.

Boggess, J. S., P. A., surgeon, on the return of Asst.-Surgeon E. H. Mullan, relieved from temporary duty at Perth Amboy, N. J., and directed to report to the medical officer in command, Stapleton, N. Y., for duty and assignment to quarters.

Salmon, T. W., asst.-surgeon, granted leave of absence for two days in January, 1907, under Paragraph 191 Service Regulations.

Ashford, F. H., asst.-surgeon, granted leave of absence for one day in January, 1907, under Paragraph 191, Service Regulations.

Miller, W. W., asst.-surgeon, granted leave of absence for one day in January, 1907, under Paragraph 191, Service Regulations.

Delgado, J. M., acting asst.-surgeon, granted leave of absence for thirty days on account of sickness, from Jan. 1, 1907.

Foster, S. B., acting asst.-surgeon, granted leave of absence for 11 days from Feb. 9, 1907.

Glascock, A., acting asst.-surgeon, granted leave of absence for one day in January, 1907, under Paragraph 210, Service Regulations.

Goldsborough, B. W., acting asst.-surgeon, granted leave of absence for 14 days from Feb. 4, 1907.

Kennard, K. S., acting asst.-surgeon, granted leave of absence for one day in January, 1907, under Paragraph 210, Service Regulations.

Moncure, J. A., acting asst.-surgeon, granted leave of absence for thirty days from Feb. 10, 1907.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for six days in January, 1907, under Paragraph 210, Service Regulations.

Wilson, J. G., acting asst.-surgeon, granted leave of absence for two days in January, 1907, under Paragraph 210, Service Regulations.

Woods, C. H., pharmacist, granted leave of absence for thirty days, from Jan. 7, on account of sickness.

Allen, G. C., pharmacist, directed to report to Surgeon W. G. Stimpson, chairman of board, for physical examination to determine his fitness for promotion to grade of pharmacist of the first class.

Rogers, Edward, pharmacist, directed to report to Surgeon P. H. Bailhache, chairman of board, for physical examination to determine his fitness for promotion to grade of pharmacist of the first class.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 15, 1907:

SMALLPOX—UNITED STATES.

Connecticut: Stamford, Jan. 1-31, 1 case.
Georgia: Augusta, Jan. 29-Feb. 5, 2 cases.
Illinois: Galesburg, Jan. 26-Feb. 9, 26 cases.
Indiana: Indianapolis, Jan. 27-Feb. 3, 3 cases; Lafayette, Feb. 4-11, 6 cases; South Bend, Jan. 26-Feb. 9, 5 cases.
Iowa: Clinton, Jan. 27-Feb. 3, 1 case.
Kansas: Kansas City, Feb. 2-9, 1 case.
Louisiana: New Orleans, Jan. 28-Feb. 4, 3 cases (2 imported).
Michigan: Detroit, Feb. 2-9, 2 cases; Kalamazoo, Jan. 26-Feb. 2, 2 cases.
Missouri: St. Joseph, Jan. 26-Feb. 2, 30 cases; St. Louis, Jan. 26-Feb. 11, 3 cases.
New York: New York, Jan. 26-Feb. 9, 3 cases, 1 death.
South Dakota: Sioux Falls, Jan. 26-Feb. 2, 2 cases.
Texas: Houston, Jan. 12-Feb. 2, 11 cases.
Washington: Spokane, Jan. 19-Feb. 2, 11 cases.
Wisconsin: La Crosse, Feb. 2-9, 1 case; Milwaukee, Jan. 19-Feb. 9, 14 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Dec. 15-22, 1 case.
Brazil: Pernambuco, Dec. 15-31, 48 deaths; Rio de Janeiro, Dec. 30-Jan. 6, 1 case.
Canada: Sherbrooke, Feb. 9, 4 cases.
China: Hongkong, Dec. 1-22, 4 cases, 3 deaths; Shanghai, Dec. 23-30, 1 case.
France: Paris, Jan. 12-19, 14 cases, 1 death.
Great Britain: Hull, Jan. 12-19, 2 cases.
India: Madras, Dec. 15-21, 2 deaths.
Netherlands: Rotterdam, Jan. 19-26, 5 cases.
Russia: St. Petersburg, Dec. 27-Jan. 12, 6 cases, 3 deaths.
Spain: Seville, Dec. 1-31, 40 deaths.
Africa: Senegal and Niger, Nov. 1-30, 35 cases, 26 deaths.
Mexico: Vera Cruz, Feb. 8, 1 case (imported).

CHOLERA.

India: Bombay, Jan. 1-8, 4 deaths; Rangoon, Dec. 22-29, 23 deaths.

PLAGUE.

Brazil: Pernambuco, Dec. 15-31, 1 death; Rio de Janeiro, Dec. 30-Jan. 6, 20 cases, 5 deaths.
India: Bombay, Jan. 1-8, 26 deaths; Rangoon, Dec. 22-29, 23 deaths.
Peru: Callao: Jan. 5-12, 2 cases, 1 death; Chickayo, Jan. 1, 5 cases, 3 deaths; Mollendo, 1 death; Paita, City and vicinity, Jan. 1, 6 cases, 1 death; San Pedro and Pacasmayo, 10 cases, 4 deaths; Trujillo, 14 cases, 5 deaths.

Marriages

CHARLES A. CRANE, M.D., to Miss Mabel Putt, both of Canton, Ohio, recently.

FRED H. HUNTLEY, M.D., to Miss Maud Williams, both of Manton, Mich., February 6.

S. YOUREE ALEXANDER, M.D., to Miss Florence Jacobs, both of Shreveport, La., February 6.

WALTER M. REEDY, M.D., Scranton, Pa., to Miss Mary Teresa Healey, of Dunmore, Pa., February 7.

DAVID W. WENSTRAND, M.D., Milwaukee, Wis., to Miss Gertrude Walters, of Chicago, Dec. 24, 1906.

JOHANNES G. OOSTERBECK, M.D., to Miss Blanche Pemberton, both of South Bartonville, Ill., February 6.

JAMES F. GAFFNEY, M.D., Lowell, Mass., to Mrs. Ethel Roberts Sawyer, at Providence, R. I., February 6.

FRANK ERNEST SOHLER, M.D., San Francisco, to Miss Luella May Bremner, of Santa Rose, Cal., February 2.

CHARLES MCKINNEY NICE, M.D., Palos, Ala., to Miss Helen Gilberta Adams of Germantown, Pa., February 5.

RALPH FREDERICK BACON, M.D., Milwaukee, Wis., to Miss Mabel Rebecca Hoyt, of Brooklyn, N. Y., Oct. 16, 1906.

FRANK TERRY BROOKS, M.D., Greenwich, Conn., to Miss Madeline Conkey, of New Hampshire, at Honolulu, H. I., January 21.

Deaths

Sir William Hales Hingston, M.D. McGill University Medical Department, Montreal, 1851; L.R.C.S., Edinburgh, 1852; LL.D., D.C.L., F.R.C.S., England; for many years dean of the medical profession of the Dominion of Canada; professor of clinical surgery at Laval University, Montreal; surgeon-in-chief of the Hotel Dieu, Montreal; formerly mayor of Montreal; president of the provincial board of health in 1876 and 1877; senator of the Dominion of Canada; knighted in 1895; died at his home in Montreal, February 19, aged 78.

Henry Joseph Gaffney, M.D. Medical School of Harvard University, Boston, 1870; government inspector of Indians at Charlottetown, P. E. I., but since 1872 a resident of Salem, Mass.; a member of the Massachusetts Medical Society, Essex South District Medical Society; fellow of the Royal College of Physicians, London; a member of the local board of overseers of the poor for five years, and of the school board for nine years, died at his home in Salem, February 10, suddenly, from heart disease, aged 59.

John de Barth Walbach Gardiner, M.D. University of Georgetown, University of Maryland School of Medicine, Baltimore, 1863; surgeon in the Confederate service in the Civil War; who was admitted to the Medical Department of the Army as lieutenant and assistant surgeon in 1875; was made captain and assistant surgeon in 1880, and was retired on account of disability in line of duty in 1891, died at his home in Pleasant Hill, Md., February 5, aged 64.

William C. Pickett, M.D. Jefferson Medical College, Philadelphia, 1895; a member of the American Medical Association; demonstrator in neurology in Jefferson Medical College and later professor of nervous diseases in the Medico-Chirurgical College; a member of the Major Staff of the Hospital Physicians; president of the Philadelphia Neurological Society, died at his home in Aldan, Pa., February 5, from acute articular rheumatism, aged 37.

Alexander C. Burns, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1877; chief of the surgical staff of the City Hospital, Huntington, W. Va., for 15 years; once a member of the board of education of Getaway, Ohio, and later a member of the Huntington board of education, died suddenly at his home in Huntington, February 2, from cerebral hemorrhage, aged 58.

William H. Kennedy, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1904; deputy clerk of Snohomish County, Wash., from 1891 to 1896, and afterward a practitioner at Montague and Ravenna, Mich.; a member of the state and county medical societies, died in Mercy Hospital, Muskegon, February 6, from myocarditis, after an illness of ten weeks, aged 38.

Charles C. Merrill, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1863; surgeon in the Army throughout the Civil War; for several years a member of the staff of the Newburg Insane Hospital, Cleveland, Ohio, and thereafter a practitioner of Marshallville, Ohio, died at the home of his brother in Kankakee, Ill., February 5, aged 74.

John Blackwood Strachan, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1852; surgeon in the Confederate service throughout the Civil War, and said to have been the oldest practitioner of Petersburg, Va., died at his home in that city, February 6, after a prolonged period of invalidism, aged 77.

Horace Campbell, M.D. College of Physicians and Surgeons in the City of New York, 1899; a member of the state and county medical societies; coroner of Chehalis County, Wash., and chief of staff of the Hoquiam Hospital, died suddenly at Hoquiam, February 1, from fatty degeneration of the heart, aged 34.

James Francis McCarthy, M.D. Minnesota Hospital Medical College, Minneapolis, 1883; a member of the American Medical Association and a leading member of the medical profession of Dubuque, Iowa, died in Iowa City, February 10, five days after an operation for hernia, aged 49.

Oscar Gaudet, M.D. Tulane University of Louisiana, Medical Department, New Orleans, 1861; a Confederate veteran; for four terms coroner of St. James Parish, and one of the most esteemed citizens and practitioners of Paulina, La., died at his home, February 7, aged 68.

Luke M. Doyle, M.D. Rush Medical College, Chicago, 1897; of Burnside, Chicago, a member of the American Medical Association, died in Wesley Hospital, Chicago, February 19, from appendicitis, after an illness of one week, aged 32.

H. **H. Barncastle, M.D.** Memphis (Tenn.) Hospital Medical College, 1891; a member of the state and county medical societies; of Haughton, La., died in the Shreveport (La.) Sanitarium, February 8, after a prolonged illness and two weeks after an operation on the liver.

Franklin Wheeler, M.D. College of Physicians and Surgeons in the City of New York, 1852; a member of the state and county medical societies, died at his home in Farmington, Conn., February 10, from cerebral hemorrhage, after an illness of five days, aged 79.

Thomas Edwin Nott, M.D. Medical College of the State of South Carolina, Charleston, 1852; who served throughout the Civil War as surgeon in the Confederate service, died at his home in Spartanburg, S. C., January 19, after an illness of a year, aged 76.

Louis Dwight Shipman, M.D. College of Homeopathic Medicine and Surgery of the University of Minnesota, Minneapolis, 1896; a member of the faculty of that institution, died at his home in Minneapolis, February 5, from diphtheria, aged 31.

Henry Harris Davidson, M.D. New York Medical College, New York City, 1864; at one time coroner of Suffolk County, N. Y., and health officer of Northport, L. I., died at his home in that village, from pneumonia, February 5, aged 67.

George Wasson Grove, M.D. Tulane University of Louisiana, Medical Department, New Orleans, 1890; of Kansas City, Mo., died in St. Joseph's Hospital in that city, February 8, four weeks after an operation for appendicitis, aged 54.

Samuel W. Rutledge, M.D. Homeopathic Medical College, St. Louis, 1876; sometime member of the State Medical Board of North Dakota, died at his home in Grand Forks, February 3, from kidney disease, after a long illness, aged 54.

Marshall E. Leatherman, M.D. College of Physicians and Surgeons, Baltimore, 1873; a specialist in genitourinary surgery, of Washington, D. C., died at the home of his father in Frederick County, Md., February 8, aged 55.

William Henry Pearce, M.D. Ohio Medical College, Cincinnati, 1845; who retired from practice in 1860; died at his home in Eureka Springs, Ark., from nervous shock, 14 hours after a street railway accident, January 23, aged 91.

Isaac E. Myers, M.D. Western Reserve University Medical College, Cleveland, 1867; a veteran of the Civil War, died at his home in Shelby, Ohio, February 9, from cardiac dropsy, after an illness of two years, aged 67.

Charles Wesley Benson, M.D. University of Maryland School of Medicine, Baltimore, 1860; of Baltimore, died at the Union Protestant Infirmary in that city, February 10, after an illness of six weeks, from diabetes, aged 69.

Henry Z. Gill, M.D. Jefferson Medical College, Philadelphia, 1857; a veteran of the Civil War, and a member of the American Medical Association, died at his home in Long Beach, Cal., February 6, aged 76.

James Thomas Marsh, M.D. Washington University, Medical Department, St. Louis, 1860; a member of the American Medical Association, of Liberty, Mo., died February 9, from pneumonia, aged 73.

John Andrew Warde, M.D. Medical College of Ohio, Cincinnati, 1890; of Dubuque, Iowa, died at Mercy Hospital in that city, February 7, from spinal meningitis, after a long illness, aged 40.

Frederick C. Segelke, M.D. Milwaukee Medical College, 1902; formerly of Tea, S. D., died suddenly in Milwaukee, February 2, from the effects of an overdose of morphine, aged 27.

Joel E. Whitmar, M.D. University of Wooster, Medical Department, Cleveland, 1873; a veteran of the Civil War, died at his home in Millersburg, Ohio, February 4, aged 63.

Louis D. Levi, M.D. Louisville (Ky.) Medical College, 1879; died at his home in New Albany, Ind., February 9, from influenza, complicated with diabetes, aged 47.

Jesse B. Lung, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1877; died at his home in Brooklyn, February 9, after a short illness, aged 71.

George Liebrock, M.D. Homeopathic Medical College of Missouri, St. Louis, 1878; died at his home in Mascoutah, Ill., January 24, aged 78.

John M. Modricker, M.D. University of Berlin, Germany, 1858; of Wabash, Ind., was run over by a buggy, and died February 10, aged 73.

Oscar Morrill Ide, M.D. College of Physicians and Surgeons, Chicago, 1894; died at his home in Chicago, January 19, aged 35.

S. Pruyn Patterson (Years of Practice, W. Va.), **died at his** home in Huntersville, W. Va., January 14, aged 68.

Medical Organization

DR. McCORMACK'S CAMPAIGN IN ALABAMA.

W. H. Sanders, M.D.
Health Officer of Alabama.
MONTGOMERY, ALA.

Dr. McCormack completed a campaign in this state January 18, having visited twenty-two places and delivered about forty addresses to the people and the profession, and one to the joint houses of the legislature. In estimating results, the effect on the people, on the profession, and on the members of the legislature will be referred to.

Popular addresses on the part of physicians have been very uncommon in this part of the country, hence considerable difficulty was encountered in persuading the people that an address from a doctor could be otherwise than dry and uninteresting. In fact, a considerable percentage of the members of the profession shared this view. The result was that, while fair audiences were obtained at most places, at none of them did the houses overflow as they should have done and as they would have done had the addresses been repeated at any of the places where they were delivered. The effect of the addresses on those laymen who heard them was profound and highly salutary. Indeed, the enthusiasm of the lay hearers was deeply aroused by the graphic view of the profession, its aims, its struggles, its unselfish and altruistic work, and withal its bickerings and jealousies, so luminously and effectively told by the speaker. Everywhere the expressions of appreciation and approval on the part of the lay hearers were lavish, cordial and emphatic. As specimens of hundreds of expressions used, the following are quoted: An Episcopal rector said: "Doctor, if you will remain here until Sunday I will insist on your occupying my pulpit." A lady said: "Doctor, that is the best sermon I have heard in a long time."

When the subject was opened for discussion, as was done after the addresses, preachers, lawyers, teachers, editors and business men spoke in vigorous and glowing terms of the sentiments that vitalized and warmed the address, pronouncing them both a revelation and an inspiration.

The effect on the members of the profession who heard Dr. McCormack was strong, wholesome and reassuring. While the profession in this state is logically and completely organized, yet inertia is the anesthetic that is paralyzing, more or less, the energies of the doctors, and that is, therefore, robbing organization of some of its richest fruits. The addresses were well calculated to rouse them out of this torpid condition, opening up, as they did, new fields in which their energies might be employed and new methods by which those fields might be cultivated. His scheme for graduate study was unique, practical and captivating, and will, no doubt, be adopted and followed by many county societies.

The value of harmony and coöperative study was clearly and forcefully pointed out to the doctors, and it is to be hoped that they will act on the suggestions offered and resolve to make organization bear in this state the rich fruits of which its author and founder, Jerome Cochran, had such clear and luminous visions nearly forty years ago.

The address to the legislature profoundly impressed the members and pointed out to them as they had never seen before the absolute need of a thoroughly organized public health system and the wisdom of providing it with such support as will enable it to accomplish its purposes. Numerous expressions of unqualified endorsement of what had been said were heard on the part of the members, and undoubtedly the way to broader and better legislation was greatly clarified. Just after the address was delivered Senator McWhorter, a prominent member of the profession of the state, and now president of the State Medical Association, offered the following resolution, which was unanimously adopted:

Resolved, That the thanks of the Legislature of Alabama be tendered Dr J. N. McCormack for his very able and illuminating address, which has thrown a flood of light on the problems of preventive medicine which we as legislators will be called to deal, and which impressed on us the fact that the domain of legitimate legislation has been immensely widened in the light of modern science and by the labors of the medical investigator.

As a speaker Dr. McCormack is magnetic, persuasive and convincing. Although he speaks for one hour and a half, or thereabouts, he holds the attention of his audience from beginning to end with the grip of a vise, beguiling his hearers into being unconscious of the flight of time. As a crucial test of the speaker's capacity in this respect the following incident is mentioned. At one of the meetings eight or ten boys, ranging around 15 years of age, perched themselves on some ascending

stands provided for flowers at the very rear of the auditorium. Knowing the genius of boys of that age for creating a disturbance at such places and times, and for rendering themselves a first-class nuisance, I apprehended that much annoyance would proceed from that quarter of the auditorium, but to my amazement those boys sat as still and listened as attentively as the grown people. A bright woman to whom this incident was related very philosophically defended the disposition of boys to misbehave when not entertained by saying that they are honest enough to show it, while grown people are deceitful enough to hide it. On this occasion, however, neither did the boys have an opportunity to show their honesty nor the grown people their politeness, for all were broadly informed and highly entertained.

To sum up, nothing but good can result from Dr. McCormack's campaign of education in Alabama.

County Societies in Public Health Affairs in Virginia.

To the Editor:—In THE JOURNAL, Dec. 29, 1906, Dr. Parnall asks for information regarding the appointment of members to local boards of health on recommendation of the county societies, or similar medical organizations. In Virginia county boards of health consist of the chairman of the board of supervisors, the clerk of the county court ,and three physicians appointed by the judge on the recommendation of the county medical society. This body selects its own secretary, who is county health officer. At this particular time the health officer of Elizabeth City County, who is enforcing the state law in reference to the vaccination of school children, is meeting opposition on the part of some antivaccinationists. He is secured against the threats of these faddists by the knowledge that their efforts can be effective only through the aid of his medical brethren. W. A. PLECKER, Hampton, Va.

[The Virginia law which Dr. Plecker outlines is certainly an effective and judicious one. It practically places the control of the health matters of the county in the hands of the county medical society. Such an organization in any state ought to be productive of an immense amount of good. We fear the largest possible benefit is not realized in Virginia, however, since there is in that state no connection whatever between the local county medical societies and the state society. In fact, so far as our information goes, there are only 12 county medical societies in existence in Virginia out of 100 counties. With such a law as Virginia is fortunate enough to possess, and with an active society in each county in the state, all held together by the state society, it would be possible to accomplish results in Virginia which would be unsurpassed in any state. —ED.]

Co-operation with Pharmacists.

Dr. J. R. Caldwell, secretary of the Ohio County (W. Va.) Medical Society, reports a joint meeting with the Wheeling Druggists' Association, held in Wheeling, February 15. The following program was given by members of the two organizations, followed by a lunch and social period:

Drug Poisoning. A Personal Experience.....Dr. S. L. Jepson.
Dangers of Drug Substitution .....Mr. M. A. Wallace.
What Constitutes Proprietary Remedies.....Mr. C. Menkemeller.
Druggists' Short-comings.....Dr. J. O. Howells.
The Integrity of the Druggists.....Mr. W. W. Irwin.
What Constitutes a Progressive Up-to-Date Druggist.....Mr. B. Dawson.
The Ethics of Prescription Writing.....Dr. C. A. Wingerter.
The U. S. Pharmacopeia and National Formulary vs. Proprietary Articles.....Mr. John Coleman.
The Druggist as an Assistant to the Physician.....Mr. John Ehrle.

This meeting offered an excellent opportunity for a discussion on subjects of direct interest to both physicians and druggists and must have been productive of much good. The example of this and several other societies in this matter is worthy of general imitation.

Program for the Season.

A very neatly gotten up program is sent us by Dr. H. C. Frontz, Huntingdon, Pa., secretary of the Huntingdon County Medical Society. This society was organized in 1872 and now has a membership of 30. The folder names the officers and members of the society, members of various committees, membership dues, dates of annual meetings of county and state societies and American Medical Association, with a program for meetings of the society from March, 1907, to January, 1908.

Section for Pathology Study.

On December 6 a meeting of the Erie County Medical Society was held to organize a section for the study of pathology. Two meetings have been held since that time, at which interesting papers were presented. The permanent specimens are eventually to become the property of the Erie County Medical Society and will form a valuable collection for future reference.

Society Proceedings

COMING MEETINGS.

Assn. of American Med. Colleges, Richmond, Va., March 18, 1907.
Medical Society of Missouri Valley, Omaha, Neb., March 21-22, 1907.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

(SECTION OF CLINICAL MEDICINE AND SURGERY.)

AMERICAN PHARMACEUTICAL ASSOCIATION.

(BALTIMORE SECTION.)

Joint Meeting, held in Baltimore, December, 1906.

Proprietary Preparations.

DR. HARVEY W. WILEY, Washington, D. C., outlined his views from the standpoint of an official connected with the Foods and Drugs Act. He stated that the remedies offered to the public are either nostrums or proprietaries, or they are recognized by the United States Pharmacopeia or National Formulary, or they are synthetics and proprietary articles protected by patent rights. Dr. Wiley has never regarded any medicine as a cure, but as an aid to Nature in its efforts to restore health. Although every state has enacted laws controlling the practice of medicine and pharmacy, with which the physician or pharmacist must comply before a license to practice can be secured, there is no law to prohibit any man from dispensing a so-called cure-all, irrespective of his qualifications or whether he has paid any license fee or passed any examination. Dr. Wiley holds that if it is right to protect the public against the lack of ability of the pharmacist and the physician, then that protection should be upheld regarding everybody manufacturing for sale or selling nostrums, etc. The law should require that everybody who proposes to practice medicine or dispense a remedy should be required to pass the same examinations as do physicians and pharmacists.

The old doctrine was that an ethical remedy was one that published its formula, but many formulas offered to the medical profession have been found to be absolutely false. Therefore, the Council on Pharmacy and Chemistry is investigating the remedies which are not mentioned in the United States Pharmocopeia or National Formulary, eliminating those which are false or which are represented under false statements and character. Dr. Wiley believes that all new remedies should be subjected to the same rigid tests, and should be made to occupy the same position, and that no remedy should be recommended to the profession or to the public that will not meet the provisions laid down by the council.

Dr. Wiley also stated that the success of every "patent medicine" or nostrum rests on its containing dope or on its being advertised under false pretenses. The people are led to imagine that they have diseases they have not in order to induce them to take these medicines. Such advertising is vicious and the deception practiced criminal. Dr. Wiley is of the opinion that this question must be fought out on the following lines: Practitioners of medicine and pharmacy must be put on the same plane. Because a man has a quack remedy is no reason why he should have privileges under the law. By securing efficient legislation the day of quackery will soon pass. Dr. Wiley deems it strange how the law protects the fakir and the quack in some respects. If a man drinks straight whisky, a stamp must be on the package; but the maker of fake whisky does not have to buy stamps, because the government furnishes them. It is said that the government paid $500,000 in one year to furnish these stamps for fake whisky manufacturers and for inspectors to put them on.

Nostrums and Proprietaries vs. United States Pharmacopeia and National Formulary Preparations.

DR. C. U. SMITH, Baltimore, said that the manufactured coated pills inaugurated the era of proprietary medicines. Prior to this time the profession of pharmacy was on a high plane, and the physician depended on his professional skill to aid him with his therapeutics. Following closely on the manufactured pill came the elixirs with their elegant appearance and agreeable taste. Then the retail druggist and the manufacturer began the compounding of different combinations,

gradually dropping the name of elixir and substituting trade names. Later the synthetics became prominent. These preparations, although patented, have never been looked on by the profession as proprietaries. They have displaced medicinal agents of indefinite strength and unreliable physiologic action. Dr. Smith believes that ethical preparations of this kind have done much for progressive pharmacy and therapeutics.

The commercializing of the pharmaceutical and, to a certain extent, of the medical profession, has, in Dr. Smith's opinion, been fruitful in multiplying non-ethical nostrums. Many of the nostrums brought before the medical profession present in their literature impossible pharmaceutic and chemical formulas. Dr. Smith approves of the excellent work that is being done by the Council on Pharmacy and Chemistry of the American Medical Association in exposing the fallacy of the claims made for some of these preparations.

Dr. Smith also called attention to the fact that many old, tried and valuable drugs have been displaced by newer drugs, chemicals and proprietaries. He thinks that many factors contributed to this revolution: First, the demand for more elegant and palatable preparations. Second, many of the new remedies are distinct advances in therapeutics and pharmacy. Third, higher or better education in medicine has had an appreciable effect on the excessive use of drugs. Fourth, the fact that the average medical graduate is poorly educated in pharmacy, pharmacology and therapeutics has led to the wholesale use of ready-made prescriptions by such men. The majority of medical graduates are lamentably weak in prescription writing. Dr. Smith is convinced that the use of manufactured prescriptions is unscientific, degrading and harmful. Nothing has had more to do with the degeneration of professional pharmacy than the extensive use of proprietaries. The art of prescription writing is almost lost, and the pharmacist has become largely a nostrum vendor. It hurts the doctor financially, as he puts these remedies into the hands of the laity, and physicians are largely responsible, through the nostrum evil, for making drug fiends of their patients and others.

As a remedy for these conditions, Dr. Smith suggested the better education of the student in pharmacy, pharmacology and therapeutics. The course should be practical, and more attention should be paid to the newer methods of therapeutics, and excessive drugging should be discouraged. The student should be made better acquainted with the preparations of the Pharmacopeia and of the National Formulary, where he may find most of the combinations of merit that have become popular. A closer relationship between the state branches of the American Pharmaceutical Association and the state medical societies in affiliation with the American Medical Association would assist materially in checking the nostrum evil and in improving our materia medica and therapeutics.

Mr. H. P. Hynson was the next speaker. His paper will be published in THE JOURNAL later.

DISCUSSION.

MR. JOHN B. THOMAS, Baltimore, believes that the time has come when the physician will appreciate that it is best for him to use the preparations of the United States Pharmacopeia and National Formulary and to forget all about proprietary medicines. He said that the local pharmacist is not only willing but glad to prepare any of the preparations of uniform composition and strength, thereby assuring the doctor that his prescription will always be the same, no matter where it is compounded. If the physician will prescribe under the Latin pharmaceutical title he will prevent, to a certain extent, the public and patient from gaining knowledge that can be of any possible good to either. He referred to an epitome of the United States Pharmacopeia and National Formulary which is about to be published by the American Medical Association and which he believes will be of great advantage to all.

Believing that it would be interesting to know what percentage of proprietary remedies are used, and also the percentage of physicians using them, he collected statistics from a number of pharmacies in Baltimore, each pharmacist being requested to go over 500 prescriptions written consecutively. The result is as follows:

NORTH BALTIMORE.

Prescriptions examined, 500.
Physicians prescribing same, 144.
Proprietary preparations prescribed, 160, or 32 per cent.
Physicians prescribing proprietaries, 29, or 20.13 per cent.

EAST BALTIMORE.

Prescriptions examined, 500.
Physicians prescribing same not stated.
Proprietary preparations prescribed, 230, or 46 per cent.
Physicians prescribing proprietaries, 53 (can not compute).

SOUTH BALTIMORE.

Prescriptions examined, 500.
Physicians prescribing same, 75.
Proprietary preparations prescribed, 241, or 48.2 per cent.
Physicians prescribing proprietaries, 43 or 57.33 per cent.

CENTRAL BALTIMORE.

Prescriptions examined, 500.
Physicians prescribing same, 115.
Proprietary preparations prescribed, 106, or 21.2 per cent.
Physicians prescribing proprietaries, 50 or 43.47 per cent.

ANOTHER PHARMACIST, CENTRALLY LOCATED.

Prescriptions examined, 500.
Physicians prescribing same, 180.
Proprietary preparations prescribed, 56, or 11.2 per cent.
Physicians prescribing proprietaries, 41, or 22.77 per cent.

WEST BALTIMORE.

Prescriptions examined, 500.
Physicians prescribing same not mentioned.
Proprietary preparations prescribed, 153, or 30.6 per cent.
Physicians prescribing proprietaries, 75 (can not compute per cent.).

DR. S. K. BOND, Baltimore, said that although he does not, as a rule, use proprietaries, he is occasionally compelled to do so. He suggested more frequent revision of the National Formulary and the advisability of numbering its preparations so that patients would not be given an opportunity to read prescriptions.

DR. CHARLES CASPAR, Baltimore, presented a number of preparations described by the National Formulary which corresponded to certain proprietaries, and directed attention to their physical characteristics. He said that these preparations can be prepared equally well, chemically and physically, in any pharmacy.

DR. A. D. MCCONACHIE, Baltimore, said that the ignorance which is responsible for the use of many proprietaries should be overcome by a more thorough knowledge of prescription writing.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Jan. 9, 1907.

The President, Dr. Charles K. Mills, in the Chair.

Roentgen Diagnosis in Gastric and Intestinal Disease.

DR. HENRY HULST, Grand Rapids, Mich., stated that the tendency in Roentgen ray diagnosis has been away from the screen and toward the plate. Both methods, however, have their advantages, the screen for general orientation and motion, the plate for detail and permanent record. Bismuth is needed, but the aim should be to use no more than suffices for the purposes of the examination. Position exerts a marked influence on the location of the stomach and intestines. The greater the ptosis the more pronounced the effect. The diaphragm is notably higher on the side on which the person examined lies, and diaphragmatic breathing is greatly in excess to the other side. The horizontal position permits the heart, diaphragm, stomach and colon to ascend, and causes the stomach also to gravitate towards the fundus. This position tends to replace the prolapsed stomach. Examination for gastroptosis in the recumbent dorsal position is therefore misleading. To bring out the existing ptosis it is necessary to put the patient in the erect (sitting or standing) position. Pressure against the hypogastrium pushes the stomach upward; to a less extent, the diaphragm and heart also. Voluntary retraction of the lower abdomen produces a like result and is attended, moreover, by a reflex enlargement of the lower thoracic aperture. This is the exact reverse of what takes place in enteroptosis in which the diaphragm descends, together with the other organs, and the lower thoracic aperture diminishes in size.

This suggests the existence of a definite relation between the shape of the body and the position of the internal organs. The Becker-Lenhoff index is but one tentative expression of

this relation. In proportion as people are well-built their stomachs approach a certain type. Dr. Hulst asserts that good figures are rare, especially among women, and that normal stomachs must, therefore, be rare also. The more of a Venus a woman, the more of an Apollo a man, the more perfectly their stomachs correspond with the normal type; but, the author feels that the line is instinctively drawn at enteroptotic Venuses and gastroptotic Apollos.

Use of Roentgen Rays in Diagnosis.

DR. E. W. CALDWELL, New York City, stated that all Roentgen ray examinations are made by means of shadows which are obtained by interposing the object examined between a source of rays and a fluorescent screen or a photographic plate. Dr. Hickey's definition of a skiagraph was quoted as "a record of density, produced by the Roentgen rays, and made in accord with the laws of projection." No one can be safely trusted to interpret a skiagraph until he has learned to regard it, not as a view, but as a projection, and to be constantly on his guard against erroneous impressions of perspective. This tendency to consider the skiagraph or so-called *x*-ray photograph as a photographic view has led to much of the dissatisfaction with the Roentgen ray, and sometimes caused its veracity to be called in question. The Roentgen ray, it is claimed, does not lie, but one who incorrectly interprets its shadows may seem to be lying when he is only mistaken. Considering the skiagraph as a projection and not as a view, the absurdity of the requests for side views of shoulders and hip joints, familiar to every Roentgen-ray worker, is apparent. Transverse projections of these parts superimpose the shadows of both sides as well as everything between, and the rays must pass through the body in its long diameter. Such projections are, therefore, in most cases, useless.

With all their imperfections, Dr. Caldwell regards stereoscopic Roentgen projections as extremely valuable in many cases; and, in spite of the difficulty of technic, he feels that they must come into more general use. Since in Roentgen work nothing is gained by the print, he thinks it better to use the glass plate and avoid the loss of detail incident to the transfer to printing paper. Whether plate or print is used, it must be remembered that the shadows of similar objects are similar in color. Reference was made to the skiagraph of a supposed vesical calculus, the shadow of which, however, was dark and due to gas trapped in the rectum.

DR. CHARLES LESTER LEONARD said that the practitioner should demand the employment of the Roentgen method of diagnosis by a Roentgenologist whose ability and experience fit him to make diagnoses by its aid, which the practitioner himself can not make. Anatomy, viewed from the Roentgenogram, is entirely different in its expression from any other view. Pathological anatomy is likewise very different and its interpretation demands an experience and study that can only be secured by those devoting time to it.

DR. MIHRAN K. KASSABIAN said that the Roentgen ray is the only means of differentiating rare, obscure and simulating conditions, such as fractures, epiphyseal separations and displacements from dislocations.

Roentgen Rays in Dermatology.

DR. RUSSELL H. BOGGS, Pittsburg, made a plea for a more conservative use of the Roentgen rays in dermatology. In order to apply the rays successfully he said the operator must be able to decide whether Roentgen treatment is the best method available, and then be able to give the dosage necessary to produce the desired physiologic action. He suggests that if every operator would first learn the action of the rays by making radiographs of the more difficult portions of the body, results would be more uniform. As the rays are only indicated in certain lesions, and should not be employed in a routine manner, each case should be carefully studied and then the method of treatment decided on. In the treatment of chronic eczema, stubborn cases of acne, psoriasis, keloid and lupus vulgaris, Dr. Boggs has found the Roentgen method efficient. As an epilatory agent the method is superior to any other in the treatment of parasitic diseases, such as favus and tinea, sycosis and blepharitis. Considering the large amount of ringworm and favus among school children in the poorer districts and the failure of prophylactic measures to prevent their spread, it seems to the author almost imperative that these cases should have *x*-ray treatment by an experienced operator. The danger is pointed out of having the rays applied by resident physicians, nurses or engineers.

Radiotherapy in the Treatment of Malignancy.

DR. GEORGE C. JOHNSTON, Pittsburg, considers malignancy in the abstract as a condition of cell anarchy, expressing thereby the total disregard of the individual cells for physiological law. This disregard is shown by the invasion of new territory and by remarkable multiplication. These new cell formations possess low resistance and poor reparative power, and when exposed to a dose of Roentgen ray, which in normal tissue would produce but transitory irritation, they undergo tissue death. The author shows that in the treatment of internal growths failure frequently occurs because in spite of every device an undesirable surface effect is produced before the deepest portions of the growth have received sufficient Roentgen ray. There is pointed out the constantly successful results of superficial malignant conditions in qualified hands and here the greatest value of the ray is shown in those conditions less favorable for successful surgical removal, such as epitheliomas in and about the alæ of the nose, on and about the eyelids, and about the eyes. It is stated that the treatment of carcinoma in the hands of certain operators has cast much discredit on the method, hundreds of absolutely unsuitable cases having been submitted to *x*-ray by inexperienced physicians. While he claims it as true that many primary circumscribed carcinomas have been successfully treated by Roentgen ray alone, yet he regards the wisdom of such treatment doubtful, believing it better to combine surgery and *x*-ray, submitting the patient to a series of anti-operative radiations, followed by extirpation of all infected tissue, and this again followed by a series of post-operative radiations. The objections that have been advanced to anti-operative rediations he states are theoretical only, and believes that an experienced surgeon will find no difficulty in operating on a patient who has been exposed to *x*-ray.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and First Annual Meeting, held in Albany, Jan. 28-30, 1907.

(*Continued from page 632.*)

Pathology of Non-tuberculous Joint Infections.

DR. E. H. NICHOLS, Boston, classified these joint affections as serous, ulcerative, joint tending to become ankylosed, joint showing tendency to formation of new bone, fungous type with overgrowth of membrane and papillomatous growth extending into cavity. The majority of cases of the serous type can be cured by operation. The ulcerative type calls for moderate use and an attempt to increase the circulation by massage, etc. This course of treatment is also applied to the joints showing a tendency to the formation of new bone.

Pneumococcus and Typhoid Infection.

DR. ROSWELL PARK, Buffalo, said that joint affections occur as a purely toxic synovitis and as embolic or truly septic. Of typhoid joint affections there might be mono-poly-articular forms. Even the spine and temporomaxillary articulations may be affected by typhoid complications. If the joint complication is due to pneumococcus it is painful; if due to typhoid it is not painful. Hip involvement causes the patient to assume a peculiar position and these cases should be handled with care, as a joint already affected can be dislocated easily. Typhoid joint complications are not as infrequent as is supposed. The conditions in pneumonic joint complications are not very different from those in typhoid. Some cases occur early with very serious complications. Statistics collected by a physician in Liverpool show that of 31 patients 24 died.

Symptoms and Diagnosis of Syphilitic and Gonorrheal Affections of Joints.

DR. REGINALD H. SAYRE, New York, thought that many syphilitic joints are taken for tuberculosis, rickets, scurvy, etc. The presence of a discharge, and a history of attacks shortly antedating the joint affection, and microscopic examination of fluid from the joint, are aids in diagnosis. A cure following antisyphilitic treatment does not necessarily mean that the patient was syphilitic. Gonorrheal synovitis may be primary or secondary. Gonorrheal infection may affect the spine, and in such cases the antigonorrheal serum may be useful.

Staphylococcus and Streptococcus Joint Infections.

DR. LUCIUS HOTCHKISS, New York, said that the tendency to classify all acute joint inflammations as rheumatism is a source of danger in pyogenic infections. One should not condone the error of continuing to treat with salicylic acid those acute cases which are not promptly and favorably influenced by it, and in which prompt incision and drainage is the clear indication. Many of the acute pyogenic infections in their early stages have symptoms in common. All are acute in onset, are accompanied by pain, increased heat, redness, joint distension and obliteration of the contour, with altered position and function. The constitutional symptoms are elevation in temperature, rapid, feeble pulse, headache and sometimes delirium and coma. The acute sero-purulent forms of synovitis not specifically due to the streptococcus or the staphylococcus should be carefully differentiated by inquiry into the history, course, and onset, and if any doubt exists recourse should be had to aspiration and bacteriologic examination. High temperature in joint infections generally, when not accounted for by complications elsewhere, should arouse a suspicion of the presence of pus and make exploratory aspiration imperative. Only early recognition of the true condition in severe cases of acute septic arthritis can be of the slightest help toward averting certain disaster. During the course of septicemia joints may be affected and the local disturbance be so slight as not to attract the attention of the patient and hence, in such cases, it should be the rule to examine the joints daily. Though the diagnosis of acute pyogenic joint infections may often be simple, the differential diagnosis between etiologically different forms is often difficult. It is not sufficient to differentiate between serous or catarrhal synovitis, but we should endeavor to ascertain the cause. In cases where a focus of septic osteomyelitis is suspected, aspiration, combined with the use of the Roentgen ray, may be necessary to solve the mystery. Above all, the diagnosis to be practical in saving life and limb must be made early.

Syphilitic Lesions of the Eyelids.

DR. FRANK J. PARKER, New York, said that the appendages of the eyes may be the seat of any or all of the lesions of the different lesions of syphilis. The most common are the exanthemata. On the eyelids they are of rapid growth and may occur at any age and period of the infection, and while they frequently involve the entire lid they result in little destruction of tissue. As a pustular eruption in congenital syphilis they are most frequent in infants. It is not uncommon to find the diffuse gumma on the eyelids in the early stages of the diffuse eruption. Among the rare forms of extra-genital infection we find chancre of the eyelids which may easily be mistaken for lupus, epithelioma, a suppurating hordeolum or chalazion. The right eye is the one most liable to infection. The condition is more common in males than in females.

Ocular infection may frequently be due to accidental causes. A physician may become infected by the coughing of a patient during a throat examination; five such cases are reported by Fournier. Infection may occur as other extra-genital infections are liable to do from the use of public towels, sponges, etc. The chancre most frequently is located on the conjunctival surface and rapidly involves the entire lid. Chancre of the eyelids is always accompanied by enlargement of the preauricular or the submaxillary gland. If treated early, and there is no destruction of tissue or deformity the prognosis is good. A case of syphilitic granuloma of the lower lid was reported and another of chancre on the margin of the upper lid.

Cancer; Retrospective and Prospective.

DR. ROSWELL PARK, Buffalo, described the attitude of the medical profession and of the public toward the cancer question, and related the difficulties encountered in getting state help in founding the Cancer Laboratory at Buffalo, which has been in existence about eight years. It is the first laboratory of the kind established. After outlining the work done by investigators in other laboratories, he concluded that it is evident that the advances in our knowledge of cancer made during the past two years are mainly attributable to the discovery of the transplantability of tumors in small animals, a possibility until recently denied. The establishment of this laboratory has pointed the way and shown the correctness of the view that the great problem of the origin and nature of cancer can only be solved by an elaborate and well supported attack from all directions, a conclusion which has been confirmed by the various other institutions that have followed this one. He exhibited a map showing the steady increase in mortality from cancer in the State of New York and an elaborate study of the city of Buffalo. The map might serve as a model for similar work in other cities and should be carried on in every city having a health board or a registry of deaths. He was sure that if any unprejudiced person would visit the laboratory and become acquainted with what is being done, he will feel that the work is one that the state should be proud of and that is deserving of the heartiest public support.

Inflammation of Thoracic Duct.

DR. HENRY P. DE FOREST, New York, reported a case of inflammation of the thoracic duct. The clinical history showed that there was first ptomain poisoning from eating shell fish. Then aggravated symptoms followed from partaking of a cold-storage fowl, thereby greatly lowering the resistance in the intestinal tract, and thus permitting the ptomains, as well as the bacteria, to gain access to the system. Marked leucocytosis was present, the number of whites reaching nearly 100,000. When each valve was overcome, there would be a chill and finally the abscess perforated into the jugular vein, the symptoms of septicemia developed during the last week of life. Necropsy showed all the organs to be normal, except the kidneys and liver. A mass the size of a bolonga sausage was found containing an abscess cavity large enough to admit the finger. The mesenteric glands were greatly enlarged. This mass was at the receptaculum chyli and the condition extended up to the jugular vein. Several distinctly nodulated masses were found, all about the size of a finger. Pus could be squeezed from the thoracic duct into the jugular vein.

Underfeeding and Its Associated Ills.

DR. DUDLEY ROBERTS, Brooklyn, expressed the conviction that the cure of chronic functional ailments is usually to be found in the correction of the mental and physical hygiene of each patient. All dietetic problems are essentially individual problems and must be worked out on this basis. Generalized reductions in dietary standards based on the prevalent assumption that we eat too much are to be deprecated. This broad condemnation of our dietary standards is not justified by any demonstrated facts or warranted by the current high average of health and efficiency. Overeating at a particular meal, either daily or occasionally, are dietetic errors of a different kind. In the general clamor about the danger of overeating we have lost sight of the danger of undereating. After careful elimination he concludes that the only absolute criterion as to whether a patient is underfed or not is the effect of an increased diet. An individual afflicted with those ills known to be due to underfeeding, and who has the physical constitution suggestive of this state, is entitled to the experimental test of an increased dietary. From an analysis of hospital and private cases the underlying causes of habitual underfeeding are the saving of time and money, loss of appetite and complaints referred to the stomach. The author considered different types of cases due to this cause, the gastric type, the intestinal type, the anemic type and nervous types.

Book Notices

THE EAR AND ITS DISEASES, a Text-book for Students and Physicians. By S. S. Bishop, B.S., M.D., LL.D., Honorary President of the Faculty and Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College, etc. Illustrated with 27 colored lithographs and 200 additional illustrations. Cloth. Pp. 439. Price, $4.00 net. Philadelphia: F. A. Davis & Co., 1906.

The author has rewritten his earlier text-book in which stress was laid more on disease of the nose and throat; the 18 chapters on the ear have been increased to 36, and only the essentially related conditions of the nose and throat are touched on in four chapters. Five chapters are devoted to a presentation of the anatomy of the ear, for which he has made and utilized many good preparations, although it is regrettable that the half-tone reproductions are not better. The many cuts borrowed from Politzer show the usual inferiority to the German originals, and the colored plate of the drum-heads is still very crude and almost caricatures the exquisite *"Beleuchtungsbilder."* The colored frontispiece furnishes an admirable teaching diagram, although the right ear seems connected with the left side of the nose, and other confusing details need to be explained away. About 80 of the 200 illustrations are of instruments, about 30 being noted as "the author's."

The statistical summary of 21,000 cases remains as in the work of eight years ago, and has not been supplemented by more recent data. The operative results of the author or others are not cited; but he quotes many individual cases and illustrates a dozen wounds at different periods after operation. His descriptions of mastoid operations corresponds with the earlier work of Schwartze and Stacke, as set forth by C. R. Holmes in 1892, and he is evidently conservative as to unnecessary chiseling—his radical operation being far less radical than the simple or "modern" operation of our New York colleagues. If he realized that the antrum is a part of the tympanum and called his "Stacke operation" a tympanic exenteration, omitting the overworked term radical unless to note those cases in which all mastoid structure is removed, there would be less to criticise in his presentation of mastoid evisceration. It will be better to imitate his conservatism rather than to amputate almost all of the temporal bone for fear that it may become diseased. When he urges that all pathologic tissue be removed and illustrates at least one case of thorough tympanomastoid exenteration, the author gives sound advice, undismayed that others may claim that they are (needlessly) more radical than he.

His list of indications for operation is fairly instructive, but he himself reads between the lines in many instances, as witness several of his cases reported in his chapter on influenza mastoiditis, which were brought through without operation. His excessive use of ice can not be commended, nor can counter-irritation of the mastoid be approved. He makes no mention of the rongeur in mastoid work and speaks only of the de Vilbiss instrument for enlarging the trephin opening to explore for brain abscess. In this search for pus in the brain he generally uses the aspirating needle, as he does in the lateral sinus; it is to be hoped that it will be as utterly discarded as the gimlet for opening the mastoid. The description of a sinus-thrombosis operation is principally quoted from E. Meier and hardly suggests much personal experience. In fact, the consideration of intracranial extensions of ear disease occupies but seven pages, and is not up to the general standard of the work. More satisfactory are the chapters on the influence of general constitutional disorders and of drugs on the ears.

Throughout the work Dr. Bishop claims to present his own experience and findings rather than to round out a treatise by citing the varying views of authorities; so his quotations, though numerous, are far from exhaustive and not always representative. His condemnation of certain measures, like Charcot's use of quinin for the relief of Meniere's symptoms, shows that he knows the matter rather by hearsay and does not realize that Charcot strove to utilize the injurious action of large doses of quinin in order to convert into a destructive lesion one that was only irritative.

The most characteristic section of the work is still the author's inflation procedure with the air tank and his advocacy of astonishing pressures. He quotes Politzer as stating the pressure for "my method varies, as a rule, between 15 and 60 pounds;" also "during thirteen years only 14 cases of ruptured drum-heads are known. In the case of a normal membrana tympani a pressure of from 45 to 60 pounds is required to cause rupture"—assertions which can not be found in Politzer's later writings. His text-book (Fourth Amer. Ed., 1903) gives the pressure as from 0.1 to 0.4, atmosphere (from 1.5 to 6 pounds) or more.

It is with unabated astonishment that one reads: "The author has never ruptured a drum-head by compressed air," and further: "A case of tubal stenosis resisted 90 pounds with the nasal bulb, but 50 pounds pressure carried a spray into the middle ears through the catheter." "If more than from 15 to 30 pounds be used with the catheter-beak not properly adjusted, there is a possibility of forcing the air into the submucous tissues and producing a dangerous emphysema. We have never seen any such results from this cause; but three deaths are recorded." When we remember that the cheeks and mouth can only resist a pressure of from 5 to 7 pounds, and the palate probably little more, we can understand some of the harmlessness of the inflation without the catheter, and must admire the providential safeguards that protect the middle ear from most of the stress of such dangerous pressures, which in caissons and elsewhere have been frequently known to rupture the drum-head. Used with only some 10 pounds of pressure, as seems usual with Dr. Bishop, his procedure may be effective and safe.

RECENT ADVANCES IN THE PHYSIOLOGY OF DIGESTION. Delivered in the Michaelmas Term, 1905, in the Physiological Department of University College, London. By E. H. Starling, M.D., F.R.S., Jodrell Professor of Physiology. With twelve illustrations. Cloth. Pp. 156. Price, $2.00 net. Chicago: W. T. Keener & Co, 1906.

These lectures consist almost entirely of a popular form of discussion of the various features of digestion, in connection with the important investigations which have been carried out in the laboratory of the author at University College, and which in turn rest on, or were incited by, Pawlow's researches. The most striking feature of the work of Starling's school is on the interaction between the different sections of the alimentary tract. These, he demonstrates, are not regulated and incited so much by nervous mechanisms as Pawlow had believed, but rather by chemical substances which are formed under the influence of the products of digestion in one part of the tract, and which are absorbed into the blood and produce a stimulation of some other portion of the tract. Thus, under the influence of the acid chyme on the upper part of the small intestine, the intestinal mucosa produces a substance called "secretin," which causes a rapid secretion of pancreatic juice, and also, probably, of bile. These stimulating substances are called by Starling "harmones" (from ὁρμάω arouse or excite), a name which will probably become conspicuous in the physiologic literature of the future. The hormones, as yet discovered, do not belong to the chemically complex substances like toxins and enzymes, but seem more comparable to the alkaloids and similar substances of definite composition. Starling compares them to the drugs of the pharmacopeia, saying: "The practice of drugging would seem therefore to be, not an unnatural device of man, but the normal method by which a number of the ordinary physiological processes of the organism are carried out."

The physician will find in this book a fairly clear and relatively brief discussion of the most recent advance in the physiology of digestion, or what Starling calls the "growing border" of the subject, and it should be of great interest for those who are concerning themselves particularly with the subjects of gastrointestinal disturbances. The investigations discussed in this book are very valuable, as supplementing and checking the results obtained in Pawlow's laboratory, which have exerted such a profound influence on the modern conception of the functions of the digestive tract. The style of discussion is reasonably clear, although one is impelled to ask to what sort of an audience the lectures were delivered, for in places the author spends time in presenting the simplest elementary facts about the physiology of digestion, such as should be familiar to a high-school graduate, while for the most part the level of

the discussion requires a well-trained mind to comprehend the full significance of the subject. Many American surgeons would be delighted to question the position taken by Starling in considering the gall bladder as an organ of considerable importance as a reservoir for bile to be discharged at each meal.

PHOTOSCOPY (Skiascopy or Retinoscopy). By M. D. Stevenson, M.D., Ophthalmic Surgeon to the Akron City Hospital, etc. Illustrated. Cloth. Pp. 126. Price, $1.25 net. Philadelphia: W. B. Saunders Company, 1906.

This is a most valuable book and one which even the most advanced ophthalmologist may read with profit. The new term photoscopy which the author uses instead of the more familiar terms, retinoscopy, skiascopy, shadow test, etc., means to "look at light," and he uses this term to draw the attention of the reader to the fact that it is essentially a *light* test. He considers the shadows as secondary and keeps one's attention directed toward the light area seen in the pupillary space and its rate and direction of movement under different conditions of refraction mirrors, etc. The importance of emphasizing the real value of the light area in this test can not be too strongly stated. The average book tends to direct attention to the shadow, which is manifestly incorrect and leads to errors, as the shadows occupy the peripheral irregular portion of the cornea, while the light area is to be found at the center, the part through which the light rays must pass when the pupil is of normal size. The shadows, however, are the more prominent in apppearance, and it requires careful concentration of one's attention on the light area to avoid being influenced by the striking shadow effects. If one will only heed the author's insistence on the importance of this light area in all cases, the results will speak for themselves. The matter is presented clearly and is well classified and arranged. The print is large and distinct and the work abounds with practical illustrations.

THE NERVOUS SYSTEM OF VERTEBRATES. By J. B. Johnston, Ph.D. Professor of Zoology in West Virginia University, with One Hundred and Eighty Illustrations. Cloth. Pp. 370. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co., 1906.

This work will be cordially welcomed by zoologists, anatomists and scientific neurologists. It is written from a biologic rather than a medical point of view, so the average general practitioner will deem it to be somewhat outside his sphere. It is based largely on original investigations by the author, published here for the first time, and it is profusely illustrated. The author accepts the neuron theory with certain modifications, admitting the occasional fusing of nerve cells with each other and the anastomosis of dendrites of different cells. He states that that part of the neuron theory which claims that nerve cells make connections with one another only by contact, is definitely disproved. As to the neurofibrillæ, he doubts the view that they constitute a special conducting substance in the nerve cell, but considers it more reasonable to regard them "as a dense portion of the colloid substances in the cytoplasm of nerve cells, whose definite form and arrangement are conditioned on the intimate structure of the protoplasm as a whole." He does not accept the "autogenetic" or "peripheral" theory of nerve regeneration advocated by Bethe, Ballance, Stewart and others, but states that the later researches of Cajal give positive evidence that the nerve is regenerated by outgrowth of the proximal stumps of the cut fibers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in Medical and Surgical Sciences. Edited by H. A. Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College, assisted by H. R. M. Landis, M.D. Paper. Pp. 349. Philadelphia; Lee Bros. & Co.

This volume discusses fully the literature of the subjects mentioned. Dr. J. Dutton Steele, in his discussion of the diseases of the digestive tract and allied organs, devotes considerable space to occult bleeding as a sign of gastrointestinal disease and to the physiology and pathology of the gastric secretion. Skiagraphy in the diagnosis of gastrointestinal diseases also comes in for its share of attention. This subject is something comparatively new and, therefore, of more than passing interest. Dr. William T. Belfield has charge of the department on genitourinary diseases and presents a most excellent résumé on this subject. Diseases of the kidney are considered by Dr. J. R. Bradford, Dr. J. C. Bloodgood discussing anesthesia, fractures, dislocations, amputations, surgery of the extremities and orthopedics, while Dr. H. R. M. Landis contributes as usual, the practical therapeutic referendum. Much matter has been collected in this volume which will, no doubt, prove useful to the practical physician.

ANATOMY, PHYSIOLOGY, PATHOLOGY, DICTIONARY. Edited by W. A. Evans, M.S., M.D., A. Gehrmann, M.D., and W. Healy, A.B., M.D. Practical Medicine Series, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery, under the editorial charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. IX. Series 1906. Price, $1.25. Chicago: The Year-Book Publishers.

This volume reviews the advances of the year in anatomy, physiology and bacteriology. The abstracts are short, as a rule, and comprise the practical results arrived at by various authors. Pathology is made to include much that seems to fall properly under the head of clinical laboratory methods. A somewhat unique feature of the book is the dictionary of new words which shows in a striking manner the impress that medical progress is making on language. Over a hundred new words and phrases are explained in this section. The volume sustains the reputation of the series for conciseness, accuracy and practical value to the physician.

OPERATIVE TREATMENT OF PROLAPSE AND RETROVERSION OF THE UTERUS. By J. I. Parsons, M.D., M.R.C.P., M.R.C.S., Physician to the Chelsea Hospital for Women, Late Surgeon Royal Maternity Charity, Fellow of Royal Medical and Chirurgical Society, Obstetrical Society of London. Cloth. Pp. 90. Price, $1.25 net. London: John Bale Sons and Danielson, Ltd. New York: William Wood & Co.

This monograph gives the results of the author's experience in twenty years' work in a special hospital for women. Parsons takes up first the anatomy and physiology of the pelvis and the organs contained therein, the general causes of displacement, and the treatment. In prolapse, he injects into the broad ligament a solution of quinin, gr. xii, sulphuric acid dil., m. xxx, and distilled water, ℥i, in order to produce adhesions by the ensuing inflammation and effusion of lymph. After injecting the solution the uterus is placed in anteflexion and kept in that position by a pessary. He claims for this operation that there is no pain afterward, no loss of blood, no shock, and no interference with subsequent pregnancy. The technic for this and for other operations is illustrated.

LECTURES ON MIDWIFERY FOR MIDWIVES. By A. B. Calder, M.B., M.R.C.S., Lecturer on Midwifery to London County Council, to St. Mary's Midwifery Training School, Fulham, etc. Cloth. Pp. 274. Price, $2.00 net. New York: William Wood & Co.

This book consists of lectures to classes in midwifery. It considers briefly the anatomy and physiology of the pelvis and pelvic organs, the mechanism and management of labor, infant feeding, abnormal conditions affecting the mother or child, and the hygiene of the lying-in chamber. The book concludes with chapters on the midwives' act and the rules of the central midwives' board of Great Britain. It is a little too comprehensive for nurses and nardly complete enough for use as a text-book for medical students.

SKIN AND VENEREAL DISEASES, NERVOUS AND MENTAL DISEASES. Edited by W. L. Baum, M.D., H. T. Patrick, M.D., and W. Healy, A.B., M.D. Practical Medicine Series. Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, under the general editorial charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X. Series 1906. Cloth, Pp. 254. Price, $1.25. Chicago: The Year-Book Publishers.

This volume is the last of the series of ten issued in 1906. It gives a good résumé of the advances made within the past year in the subjects with which it deals. The book is carefully edited and written with the evident idea in view of being of value to the general practitioner. The arrangement of the work and a number of good illustrations serve to make it a practical and useful volume.

THE HARVEY LECTURES, Delivered Under the Auspices of the Harvey Society of New York, 1905-06. By Prof. H. Meyer, Prof. C. von Noorden and others. Cloth. Pp. 337. Philadelphia: J. B. Lippincott Company, 1906.

This volume contains the thirteen lectures given in the first course of the Harvey Society. A majority of these lectures have appeared in THE JOURNAL at different times since their delivery.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

MAINE Board of Registration in Medicine, Common Council Room, Portland, March 5. Secretary, Dr. W. J. Maybury, Saco.

MASSACHUSETTS Board of Registration in Medicine, Room 15, State House, Boston, March 12-13. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

CONNECTICUT Medical Examining Board (Regular), City Hall, New Haven, March 12-13. Secretary, Dr. Charles A. Tuttle, New Haven.

CONNECTICUT Eclectic Medical Examining Committee, State Capitol Building, Hartford, March 12. Secretary, Dr. George A. Faber, Waterbury.

CONNECTICUT Homeopathic Medical Examining Committee, New Haven, March 12. Secretary, Dr. Edwin C. M. Hall, New Haven.

IOWA Board of Medical Examiners, Des Moines, March 19-21. Secretary, Dr. Louis A. Thomas, Des Moines.

OKLAHOMA Board of Medical Examiners, Guthrie, March 26-27. Secretary, Dr. J. W. Baker, Enid.

Maryland December Report.—Dr. J. McP. Scott, secretary of the Board of Medical Examiners of Maryland, reports the written examination held at Baltimore, Dec. 12-15, 1906. The number of subjects examined in was 9; percentage required to pass, 75. Of the 63 applicants who were present, 26 participated in the examination for the first time, and of these 20 were successful. Thirty-four applied for re-examination in branches in which they had previously failed; of these 15 were successful, working off all branches. Primary examinations require a general average of 75 per cent. Those re-examined are required to make 75 in each branch. Three took the examination for second year students and have completed studies in anatomy, chemistry, materia medica and physiology. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard University	(1906)	75, 80
Georgetown University	(1904)*	
George Washington University	(1905) 81; (1906)	75, 80, 83
Maryland Med. Coll.,	(1904)*; (1905) 79; (1905)*; (1906)*	
University of Maryland,	(1902)*; (2.1904)*; (2, 1905)*; (1905), 83; (2, 1906)*; (1906)	75, 80
Baltimore Med. Coll.	(1904) 75; (1906) 89; (2, 1906)*	
Coll. of P. and S., Baltimore,	(1902)*; (1903) 84; (1906)	88, 88
Leonard School of Med., Raleigh, N. C.	(1905)	83
University of Pennsylvania	(1894)*; (1906)	79
Johns Hopkins Med. School,	(1903) 86; (1905) 85; (1906)	87

FAILED.

George Washington University	(1906)	70
Maryland Med. Coll.,	(1904)*; (2, 1905)*; (1906) 59, 64; (3, 1906).*	
Baltimore Med. Coll.	(1905)*; (1906) 69; (2, 1906)*	
University of Maryland	(1905),* (1906) 73; (2, 1906)*	
College of P. and S., Baltimore	(1904)*; (1906)*	
Baltimore University	(1902)*; (2, 1903)*	
Leonard School of Med., Raleigh, N. C.	(1905)	68
Jefferson Med. Coll.	(1906)*	
University of the South	(1904)*	

* Re-examined, no percentage assigned.

† One candidate was dismissed from examination for cheating.

The following questions were asked:

ANATOMY.

1. Give origin, insertion and nerve supply of the following muscles: Biceps (flexor cubiti), pterygoids, sartorius, gastrocnemius. 2. Name and give location of the ductless glands. 3. Name cavities of the heart and describe the valves. 4. Superficial and deep origin, course and distribution of the facial nerve. 5. What structures pass (a) through the jugular foramen, (b) through the foramen magnum? 6. Describe the hip joint.

SURGERY.

1. Describe the treatment of fracture of the patella. 2. Describe the fractures commonly designated (a) Pott's fracture, (b) Colles' fracture. Give treatment of each. 3. Tetanus: Give its cause, diagnosis, treatment and modes of prevention. 4. Otitis media: Define, classify, and give cause symptoms and treatment. 5. Acute glaucoma: Define, describe and give cause and treatment. 6. Describe amputation at middle third of forearm, naming important structures severed.

PATHOLOGY.

1. Name and describe the organisms most frequently associated with the following disease: Typhoid fever; malarial fever (estivo-autumnal type); tuberculosis. Give method of staining of each. 2. Describe in their order, and explain the cardinal signs of inflammation and state the terminations of inflammation. 3. State the difference in the gross pathology of acute lobar and bronchopneumonia and name the organism most frequently associated with each. 4. Give the avenues of entrance and elimination of the specific organism of typhoid fever. Name what you consider the most characteristic anatomic lesion and describe in detail the microscopic method of obtaining the Widal reaction. 5. Give the gross pathologic anatomy of cerebral apoplexy. 6. Explain what is meant by the terms physiologic and pathologic leucocytosis respectively. State whether a leucocytosis is present in the following diseases: Typhoid fever; malarial fever; appendicitis; acute miliary tuberculosis.

GYNECOLOGY AND OBSTETRICS.

1. Describe the care of the new-born child and how you would nourish it the first two or three days, there being an absence of the mother's milk. 2. Name several conditions of the mother that unfit her to nourish the infant. 3. Give the various dimensions of the pelvis and describe what presentations are best adapted to them. 4. What indications require the use of the forceps, give your method of using them, and the danger of their use to mother and child. 5. Describe the mechanism of a breech presentation and how would you dispose of the cord during the expulsion of the child. 6. Describe the method of delivering a face or frontal presentation.

PRACTICE.

1. Define: (a) Pertussis, (b) pleurodynia, (c) herpes zoster, (d) pyonephrosis, (e) cholelithiasis. 2. Name symptoms of: (a) variola, (b) acute colitis, (c) locomotor ataxia. 3. Differentiate between: sero-fibrinous pleurisy, lobar pneumonia and tubercular consolidation of the lung. 4. By what symptoms could you arrive at the earliest positive diagnosis of typhoid fever? 5. Treatment of: (a) chorea, (b) ulcerative stomatitis. 6. Give diagnosis and treatment of early stage of pulmonary tuberculosis.

CHEMISTRY.

1. Define the terms "normal salts," "acid salts," "basic salts." Give the chemical composition of physiologic "normal salt solution," with the approximate amounts of each ingredient. 2. Give the formula for the general properties of and the usual source in nature of carbon monoxid and carbon dioxid respectively. If inhaled describe how they act chemically as poisons. 3. Give the chemical composition (formula) and general properties of plaster of Paris. Explain in detail the process of setting of plaster. 4. Give the general properties of and name the antidote for carbolic acid (C_6H_6O). Construct its graphic formula and show what relation it bears to benzene (C_6H_6). 5. Name the chief chemical constituents of gallstones and give in detail a test for the detection of bile in the urine. 6. Give in detail a test for the detection of lactic acid in a specimen of gastric contents.

MATERIA MEDICA.

1. Give the chemical name of Epsom salts, Rochelle salts, glauber salts. 2. Mention the ingredients and give the dose of pulvis glycyrrhizæ compositus. 3. Give the composition dose and pharmaceutical name of Basham's mixture. 4. Name three drugs belonging to each of the following classes: (a) Narcotics, (b) diaphoretics, (c) ecbolics. 5. What is the antidote for arsenic and how is it prepared? 6. Give the derivation of opium. What amount of (a) powdered opium, (b) tincture opium, (c) camphorated tincture of opium would equal in effect one-fourth grain morphin sulphate?

THERAPEUTICS.

1. Define therapeutic incompatibility, chemical incompatibility, and give illustrations of each. 2. Describe hypodermoclysis and the conditions in which it is practiced as a therapeutic means. 3. Write a compound prescription for an adult suffering from insomnia. 4. Write a prescription containing at least two drugs, for an adult suffering from acute articular rheumatism. 5. Mention three drugs to accelerate the action of the heart and give the dose of some official preparation of each. 6. Name three drugs used to retard the action of the heart and give the dose of some official preparation of each.

PHYSIOLOGY.

1. Define secretion and excretion. What organs of the body are purely excretory? 2. What disturbances of digestion result from and absence of bile? 3. Enumerate the functions of the cerebellum 4. Name the fluids of the alimentary canal. Where is the succus entericus formed? 5. How many kinds of muscular tissue are found in the body? Describe each. 6. Describe the main forms of intestinal movement and give some of the conditions that would affect such movement.

Maryland Reciprocity Report.—Dr. J. McP. Scott, secretary of the Board of Medical Examiners of Maryland sends us a report of physicians licensed through reciprocity during the year 1906. The following colleges were represented:

College.	Year Grad.	Reciprocity with.
George Washington University	(1905)	Dist. Colum.
Georgetown University	(1897)	Dist. Colum.
Georgetown University	(1901)	Delaware
National University, Washington, D. C.*	(1902)	Dist. Colum.
University of Maryland	(1881)**	
Baltimore Med. Coll.	(1901)	Virginia
Maryland Med. Coll.	(1903)	Vermont
University of Minnesota	(1897)	Dist. Colum.
Cleveland Homeo. Med. Coll.	(1873)	Ohio

* Merged with Medical Department of Columbia University in 1903.

** Applicant was granted a permit to register by virtue of practice in Maryland prior to 1892.

Increased Entrance Requirements.—The faculties of the Department of Medicine of the University of North Carolina and of the College of Medicine of the State University of Oklahoma announce that after January 1, 1910, they will require, in addition to a four-year high school education, a preliminary year to be devoted to physics, chemistry, biology and languages.

Indiana October Report.—Dr. W. T. Gott, secretary of the Board of Medical Registration and Examination, reports the written examination held at Indianapolis, Oct. 23-25, 1906. The number of subjects examined in was 16. The total number of candidates examined was 73, of whom 67 passed (including 2 osteopaths), and 6 failed. The following colleges were represented:

PASSED.

College.	Year of Grad.	Anat., Including Hist. and Embr.		Pathology and Bacteriology.		Physiology		Etiology and Hygiene.		Medicine.		Mat. Med. and Therapeutics.		Gynecology.		Physical Diagnosis.		Ophthalmology and Otology.		Surgery.		Chemistry.		Medical Jurisprudence.		Neurology.		Laryngology and Rhinology.		Obstetrics.		Pediatrics.		Total Points.
George Washington University	1906	92		90		60		48		89.6		90.5		55		45		28		100		50		18		30		20		84		15		915.1
College of P. & S., Chicago	1906	85		85		55		42		87.		87.4		40		48		18		90		50		20		27		17		84		18		853.4
College of P. & S., Chicago	1906	79		95		65		50		83.8		81.8		56		42		27		95		40		20		30		20		86		19		889.6
College of P. & S., Chicago	1906	75		85		55		38		76.4		78.5		52		42		29		100		50		18		30		20		76		18		842.9
College of P. & S., Chicago	1906	88		100		61		50		91.5		95.		52		45		26		100		50		20		30		20		87		20		935.5
College of P. & S., Chicago	1906	89		88		62		48		86.9		83.2		52		44		28		90		50		18		30		20		75		8		872.1
College of P. & S., Chicago	1906	87		85		61		45		87.		88.		48		45		26		100		50		20		30		20		84		17		893.
College of P. & S., Chicago	1906	75		90		55		42		84.1		85.7		50		40		21		95		40		18		30		20		81		19		845.8
College of P. & S., Chicago	1905	81		100		60		46		89.8		94.5		52		40		24		90		40		20		30		20		76		14		877.3
College of P. & S., Chicago	1905	62		50		58		48		65.		74.8		55		42		22		80		35		18		23		20		85		17		754.8
College of P. & S., Chicago	1903	76		80		60		48		82.		83.5		48		42		25		95		50		20		28		18		82		17		854.5
College of P. & S., Chicago	1901	75		90		55		30		86.6		90.		50		45		26		100		50		20		30		15		87		17		866.6
Chicago Homeo. Med. Coll	1903	81		90		61		48		85.		96.		48		42		26		100		50		20		30		17		96		20		910.
Rush Medical College	1906	83		98		65		50		90.5		92.5		56		42		20		95		50		18		25		17		99		16		917.
Rush Medical College	1905	88		92		60		50		83.5		83.5		52		44		28		100		50		18		27		20		75		14		885.
Rush Medical College	1906	77		85		54		45		88.3		90.		58		45		28		100		50		18		30		20		84		18		890.3
Rush Medical College	1906	90		98		62		50		86.		94.		52		44		28		100		50		20		30		20		75		17		916.
Rush Medical College	1905	79		80		59		48		88.1		86.4		50		42		28		100		50		20		26		20		92		18		886.5
Rush Medical College	1902	89		95		55		50		95.		92.9		52		44		27		100		50		20		30		20		86		14		919.9
American College of Med. & Surg	1905	88		88		58		50		94.		95.		56		46		30		100		50		20		30		20		87		20		932.
Illinois Medical College	1906	81		95		63		40		85.6		84.4		45		40		20		95		50		20		30		20		96		18		883.
Illinois Medical College	1906	90		86		65		48		89.5		90.		48		45		28		95		50		20		28		18		91		19		910.5
Illinois Medical College	1905	76		88		54		45		76.9		85.7		45		42		20		95		50		20		27		20		85		18		847.6
Hahnemann Medical College, Chicago	1896	73		75		42		40		84.		90.		52		49		25		88		40		18		26		15		85		19		821.
Hahnemann Medical College, Chicago	1893	60		80		24		48		81.		84.		45		44		28		80		50		20		30		20		95		15		804.
Northwestern University	1906	78		92		50		38		86.5		87.8		50		45		24		85		45		20		30		18		75		20		844.3
Northwestern University	1906	89		95		65		50		91.5		92.5		50		60		28		90		50		20		30		20		87		17		935.
Northwestern University	1905	91		100		67		50		95.		93.		59		48		30		100		50		20		30		20		89		18		960.
Indiana Medical College	1906	92		95		66		50		84.5		88.8		48		45		25		100		50		20		30		20		87		17		918.3
Indiana Medical College	1906	92		90		57		43		87.		88.3		50		45		27		100		50		20		28		20		87		14		898.3
Indiana Medical College	1906	75		70		41		48		77.		76.5		48		45		28		100		50		20		30		20		79		18		825.5
Medical College of Indiana	1894	68		80		59		50		84.8		86.9		48		46		28		95		38		18		28		20		85		15		849.7
Ft. Wayne College of Medicine	1905	75		98		58		48		85.3		89.		55		40		27		100		50		20		30		20		95		17		907.3
Hospital College of Medicine, Louisville	1906	76		45		59		42		83.		81.		40		38		22		85		50		15		27		18		69		9		759.
Hospital College of Medicine, Louisville	1906	77		95		56		48		85.1		82.3		50		46		28		100		50		20		30		18		81		18		884.4
Hospital College of Medicine, Louisville	1906	78		95		57		50		77.4		79.		48		42		26		100		50		20		30		20		77		18		867.4
Hospital College of Medicine, Louisville	1906	73		70		25		30		76.		81.7		46		42		28		80		40		18		27		20		86		13		755.7
Hospital College of Medicine, Louisville	1906	90		95		65		48		85.7		82.5		52		44		30		100		50		18		30		18		77		18		903.2
Hospital College of Medicine, Louisville	1906	63		80		58		46		77.3		76.		35		30		22		90		40		15		27		18		64		10		751.3
University of Kentucky	1906	91		80		57		38		85.3		96.6		42		38		23		80		50		20		25		17		77		14		823.9
University of Kentucky	1906	90		90		43		40		83.1		85.4		48		40		27		95		38		20		25		15		77		19		835.5
Kentucky School of Medicine	1906	76		70		51		44		79.1		81.8		46		40		23		100		45		18		26		20		88		14		821.9
Kentucky School of Medicine	1906	72		75		57		35		76.9		82.2		45		38		22		85		45		15		30		18		83		19		798.1
Kentucky School of Medicine	1906	76		65		57		40		75.7		75.5		55		38		29		95		40		18		30		20		83		18		815.2
Kentucky School of Medicine	1897	95		90		58		50		94.5		92.9		50		42		28		100		45		20		30		20		100		17		932.4
University of Louisville	1906	82		82		63		45		86.3		87.		50		42		28		95		50		20		30		15		82		13		870.3
University of Louisville	1905	78		65		38		45		78.8		81.6		50		35		26		90		50		18		25		20		77		8		785.4
Louisville Medical College	1906	80		85		60		45		86.5		85.8		45		42		28		100		50		18		27		20		88		19		879.3
Louisville Medical College	1906	75		60		53		40		75.6		82.5		50		42		26		85		48		20		26		17		84		13		797.4
Louisville Medical College	1906	90		90		62		50		86.		86.		52		45		26		95		50		20		30		20		91		19		912.
Louisville Medical College	1906	81		100		60		50		84.		91.8		58		48		28		95		50		20		30		15		82		18		910.8
Louisville Medical College	1906	81		60		58		40		77.4		79.		50		35		24		95		45		20		18		18		75		18		793.4
Louisville Medical College	1906	79		88		57		50		82.9		85.		45		40		24		95		50		18		30		18		83		18		862.9
Baltimore Medical College	1906	85		88		58		50		80		82.9		55		45		30		100		45		18		25		20		75		18		876.9
University of Maryland	1906	75		40		30		30		82.5		86.3		60		50		30		100		45		18		25		20		85		18		794.8
Harvard Medical School	1899	92		85		65		50		88.2		89		58		45		30		90		40		20		30		20		88		18		908.2
University of Michigan	1906	87		100		61		50		85.8		89.4		58		46		28		100		48		20		25		20		83		19		820.2
St. Louis University	1906	88		65		53		50		86.8		83.8		50		40		22		90		50		20		30		18		62		12		820.6
Columbia University	1900	35		85		58		46		84.4		84.9		37		40		23		100		50		18		30		20		91		13		815.3
Cornell University	1904	92		90		67		46		89.		89.8		50		42		26		100		50		20		27		20		83		17		908.8
Medical College of Ohio	1903	91		90		61		50		85.2		85.8		45		44		28		100		40		20		30		15		85		13		883.
Miami Medical College	1906	75		98		58		50		78.2		78.		52		48		29		95		45		20		30		20		81		16		873.2
Eclectic Medical Institute, Cincinnati	1906	78		80		58		50		98.		95.		56		45		28		95		45		20		30		18		84		20		900.
Medico-Chirurgical College, Philadelphia	1906	89		94		65		50		90.		87.8		58		45		28		100		45		20		30		20		94		13		928.8
University of Pennsylvania	1899	91		100		65		50		91.		90.		52		42		26		100		50		20		26		20		79		18		920.

FAILED.

Illinois Medical College	1906	50		65		20		37.5		74.		74.		58		45		30		100		47		15		30		20		69		14		748.5
Indiana Medical College	1906	..		30		..		10.		74.1		74.7		30		38		20		27		20		10		15		8		21		2		379.8
Medical College of Indiana	1904	68		20		18		40.		67.8		76.9		40		38		22		90		28		18		20		20		72		17		655.7
Indiana Medical College	1906	64		30		38		42.		75.6		77.1		36		40		24		100		50		20		30		20		76		9		731.7
Eclectic Medical College of Indiana	1906	25		5		57		25.		50.		60.		25		20		22		90		30		20		25		17		71		8		550.
Eclectic Medical Institute, Cincinnati	1906	47		40		25		15.		80.		80.		30		38		20		75		15		20		26		15		71		10		607.

An International Association of Medical Museums.—It is now well recognized that a medical museum having its specimens properly catalogued and classified that they may be readily found and used when needed, is an important adjunct to the teaching facilities of the medical college. It is, therefore, interesting to know that a movement has been started with every prospect of success to organize an International Association of Medical Museums. Dr. James Carroll, curator of the Army Medical Museum, is the chairman of the committee on organization and the meeting will be held in May at Washington. The object of such organization is given as follows:

a. The promotion in a general way of the efficiency of the medical museum as a compendium of scientific facts, a storehouse of material for research work and as a medium for teaching.

b. Stimulation of the study and increase of the knowledge of gross pathology.

c. Discussion of plans of cataloguing and classification and methods for the preparation and preservation of specimens.

d. Arrangements for the exchange of specimens and for the specialization of certain museums along particular lines in which they may enjoy the best facilities, provided this can be done without detriment to the interests of any of the museums concerned.

e. Consideration of the feasibility of publishing an *Index Pathologicus* in the future.

Thirty-three museums have already applied for active membership. Further particulars may be had from Dr. Carroll.

Utah January Report.—Dr. R. W. Fisher, secretary of the Utah Board of Medical Examiners, reports the written examination held at Salt Lake City, Jan. 7-8, 1907. The number of subjects examined in was 8; percentage required to pass, 75. The total number of candidates examined was 10, all of whom passed. The following colleges were represented:

PASSED.

College.	Year of graduation.	Anatomy.	Surgery	Bact., Hist. and Med. Juris.	Physiology and Hygiene.	Chemistry.	Mat. Medica.	Obstet. and Gynecology.	Pract. of Pediat. and Pathology.	General Average.
Denver & Gross Coll. of M.	1906	85	83	81	87	85	80	85	82	83.5
Denver & Gross Coll. of M.	1905	92	90	84	91	75	75	89	84	85.
Denver & Gross Coll. of M.	1892	..	..	..	75	75	..	..	..	75
Colorado School of Med...	1904	87	87	89	90	75	85	80	80	84.2
Rush Med. Coll.	1906	88	89	77	79	85	85	87	87	84.6
Rush Med. Coll.	1904	90	81	81	82	85	85	85	92	85.1
Northwestern University...	1906	95	94	96	98	85	80	98	86	91.5
Univ. Med. Coll.,Kansas City	1904	90	82	..	80	80	85	88	85	73.7
Creighton Med. Coll.	1906	88	81	75	85	75	75	80	85	81.3
Laval University, Quebec...	1901	81	83	76	75	60	80	80	75	76.2

Minnesota January Report.—Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, Jan. 2-4, 1907. The number of subjects examined in was 15; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 13, of whom 4 passed and 9 failed. Seven reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year of Graduation.	Medicine.	Surgery.	Obst. and Gyn.	Materia Med.	Anat. and Hist.	Physiology.	Chem., Toxicol. and Urinalysis.	Pathology and Bacteriology.	Prev. Med. and Medical Juris.	General Average.
Coll. of P. & S. Keokuk..	1889	81	78	78	80	95	87	83	63	74	79.8
University of Minnesota..	1905	79	65	91	65	78	85	75	76	74	76.4
Albany Med. Coll.	1900	90	73	80	66	96	86	88	75	78	81.3
Coll. of P. & S., New York.	1902	92	89	78	75	89	93	80	79	80	83.8

FAILED.

Ft. Wayne Coll. of Med...	1905	69	55	75	65	64	75	66	57	75	66.7
Coll. of P. & S., Chicago..	1906	76	58	84	42	36	75	75	68	72	65.1
Sioux City Coll. of Med...	1902	73	..	..	33	..	45	...	...	...	50.1
Minneap. Coll. of P. & S.	1904	70	39	78	53	58	75	67	47	79	62.8
Minneap. Coll. of P. & S.	1906	75	23	86	45	56	75	67	62	72	62.3
Minneap. Coll. of P. & S.	1906	76	40	88	57	68	75	85	63	73	69.4
Minneap. Coll. of P. & S.	1906	78	43	78	68	90	80	80	68	72	73
Ecl. Med. Inst., Cincinnati	1899	58	32	73	75	23	70	20	19	69	48.7
University of Virginia...	1906	83	67	63	67	86	82	75	77	78	75.3

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Rush Med. Coll.	(1904), (1905)	Illinois
College of P. and S., Chicago	(1906)	Illinois
Chicago Med. Coll.	(1883)	Wisconsin
University of Michigan	(1902)	S. Dakota
Creighton Med. Coll.	(1906)	Nebraska
Royal University, Norway	(1892)	Wisconsin

Rhode Island January Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 3-4, 1907. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 17, of whom 10 passed and 7 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Baltimore University	(1906)	75
Johns Hopkins Med. School	(1899)	92.8
Harvard University....	(1901) 77.9; (1904) 88.6;	(1907) 75*
Long Island Coll. Hosp.	(1905)	79.4
University and Bellevue Hosp. Med. Coll.	(1901)	80.6
University of Pennsylvania	(1892)	82.2
University of Vermont	(1905)	78.8
Soc. Apoth., London**	(1892)	85
FAILED.		
Baltimore University	(1904)	65.1
Maryland Med. Coll.	(1906)	58.2
Laval University, Quebec	(1904) 63.6;	(1905) 68. 69.1
Nongraduates		48.5, 58.1

* Passed all examinations and will receive degree at next commencement.

** A licensing body, not a medical school.

Discussions

VALUE OF MIOTICS IN GLAUCOMA.

(*Continued from page 680.*)

DISCUSSION.

DR. JOHN E. WEEKS, New York, said that miotics are frequently used in a desultory way, but that much better results may be obtained if their use is persisted in as advised by Dr. Posey. The treatment becomes very monotonous and is neglected by the patient, who drifts from observation and permits the disease to advance. Dr. Weeks said that he is in accord with Dr. Posey in the belief that treatment with miotics should be attempted in suitable cases of chronic glaucoma, and should be used so long as the patient is benefited. If for any reason the treatment can not be satisfactorily carried out, or if, on subsequent examinations, there is a diminution of the field for form or color, he would urge iridectomy. There are some cases beginning late in life in which the few remaining years of life can be bridged over by employing miotics. After iridectomy he uses miotics regularly in all cases in which there is any evidence of glaucoma, employing pilocarpin principally. The objections to operations, as mentioned by Dr. Posey, he does not think amount to much if the operator is skillful. The optical disadvantages are of little importance. Cataract before or after iridectomy in glaucoma is not uncommon. Infection after iridectomy is, of course, possible, but should be the rarest of accidents. Cases without congestion are favorable for the employment of miotics, but iridectomy is the procedure that promises most in all congestive cases. Dr. Weeks said that his experience with miotics prior to iridectomy has not been very encouraging. In one of his most satisfactory cases vision was retained for three years. In January, 1903, examination showed R. E., glaucomatous cupping, 1 mm.; T. Anterior chamber shallow. V.= 20/20 with correction; field for form very slightly contracted above and to the nasal side: fields for color slightly contracted in the same quadrant. Pupil of normal size. L. E., glaucomatous cupping, 1.33 mm. Pupil oval, dilated. T. + 2. Anterior chamber shallow. V.= ⅛.

May 4, 1906.—R. E., V. = 20/20—. Field for form almost normal in extent. Fields for colors much reduced. T. +. Dr. Weeks advised iridectomy, which was performed May 9. The prospects for retention of vision are very good at the present time. In this case good central vision was retained in the better eye. If a similar case presents he will advise iridectomy earlier. In a case of similar nature the left eye had become blind from glaucoma and there was glaucomatous cupping, slight pus tension and some limitation of the nasal half of the field of vision of the right eye. The patient, a woman, wished to avoid operation, and Dr. Weeks advised pilocarpin solution, but after seven months of treatment, irregular during the last eight weeks, she was found on examination to be almost totally blind.

At present he is using miotics in a number of cases of simple glaucoma in timid individuals. He will urge iridectomy as soon as he sees evidence of failure in the vision or size of color fields. The results that he has obtained by iridectomy in simple chronic glaucoma have been so good that he is decided in favor of early operation in all cases in which the disease can not be arrested by a fair trial of miotics. He does not hesitate to operate when central vision is still normal in cases in which the symptoms are positive. In the cases in which there is loss of visual field near the point of fixation, if miotics do not control he does not hesitate to operate for fear of an untoward result, such as sudden failure of this part of the field after operation. He does not think that chronic glaucoma is any more "essentially a disease of the posterior segment of the eye" than are other forms of glaucoma. Both are due to a disturbance of the balance between inflow and outflow of the fluids of the eye. The difference is that in the congestive form the disturbance is more marked. The strictures regarding the use of miotics, he said, meet with his full approval.

DR. CHARLES S. BULL, New York, said that he agreed with Dr. Posey that operative procedures are always to be deprecated when other means are equally valuable. The point for us to determine is, Have we other means equally valuable?

Iridectomy will not control the glaucomatous process in all cases, he said, and iridectomy is well nigh valueless in chronic simple glaucoma, unless it be done early in the progress of the disease, the moment that the field begins to be contracted, the moment the signs of cupping of the disc begin and the moment that increased tension is recognized. If the operation be done at this time and under these conditions, Dr. Bull believes that an iridectomy will arrest the process in most cases. If, however, the ophthalmologist waits until all the symptoms are more developed, the field narrower and the cupping deeper, the operation will fail to relieve and will often accelerate the course of the disease. For some years in more advanced cases he has followed the line of treatment indicated by Dr. Posey, and has been at least satisfied with the results. He agreed with Dr. Posey that the surgeon who faithfully tries this method of treatment will be surprised at the long maintenance of useful vision. But this treatment is of no avail in any type of the disease except the simple, chronic, non-congestive type. It should not be forgotten that as the eye becomes habituated to the miotic its strength should be gradually increased. Moreover, the effects of the miotics are transient, lasting but two or three hours, and at the end of this period the dose should be repeated, for in this method of treatment it is all important that the pupil should be kept contracted ad maximum. He also agreed with Dr. Posey that we should begin with a small dose. If eserin is used, a strength of from one-tenth to one-fourth of a grain is strong enough, to be increased as the eye becomes habituated to the drug. The irritation caused by a strong solution should be carefully avoided. The salicylate of eserin is to be preferred to the sulphate. Together with this treatment the patient's habits of life should be modified, so far as possible, to the necessities of the ocular condition. All close work should be either forbidden or at least restricted, especially by artificial light. The patient should lead an out-of-door life, the bowels should be regulated and constant attention directed to the regulation of the peripheral circulation.

DR. G. E. DE SCHWEINITZ, Philadelphia, declared that many ophthalmologists are in accord with Dr. Posey in so far as his estimate of the value of miotics in the treatment of so-called chronic glaucoma and that many are totally opposed to iridectomy. In a discussion on a paper by Dr. de Schweinitz on "The Treatment of the Apparently Unaffected, but at Most but Slightly Involved, Eye in Cases of Monolateral Glaucoma," read before the American Ophthalmological Society five years ago, many ophthalmologists expressed the opinion that iridectomy or operation in general is worthless and that there must be recourse to miotics and to various internal remedies, although few were willing to agree that iridectomy was of practically no value and likely to do more harm than good. He said that one difficulty is the difference in opinion as to what constitutes chronic non-inflammatory glaucoma. While some believe it to be a chronic progressive optic nerve degeneration, others recognize as this condition only cases in which there is progressive failure of vision, excavation of the optic papilla, crowding of the vessels to the nasal side, halo around the nerve head and increased intraocular tension, which is not constantly present, but which may be present for short periods of time at various intervals during the day or night. With these symptoms there is entire absence of inflammatory changes, the anterior chamber being of fair depth, the pupil active and the sclera not congested. Dr. de Schweinitz supposed this is the type referred to by Dr. Posey. At the Lucerne congress, in 1904, Abadie expressed his opinion that iridectomy is harmful in this disease, which, he said, should be treated with miotics, or, if these fail, by sympathectomy. Dr. de Schweinitz said that there must be some middle ground between Berry, who says that miotics are useless in chronic glaucoma, and those who believe that iridectomy is valueless and does more harm than good. Dr. de Schweinitz said that Dr. Posey is not quite fair to Cheney when he quotes him as saying that "loss of sight without operation is, of course, inevitable in chronic glaucoma." What Cheney says is: "The age of the patient should largely decide for or against operative interference, and in a healthy individual, 40 years of age, for example, iridectomy might be advised and even urged, because loss of sight without iridectomy is inevitable." He goes on, however, and remarks that as age advances the necessity for urging operation is less marked, and although it might be proper even after 65 or 70, one should not lose sight of the fact that the patient may die before his sight is lost. If one eye is blind and the disease has manifested itself in the other, Cheney would avoid operation, and presumably would use miotics if the patient was over 60 years of age, unless the progress of the disease in the first eye had been of exceptional rapidity.

Dr. de Schweinitz is satisfied of the value of miotics in this disease, no matter at what age it occurs, and believes that they should be given continuously so long as they do good. He also believes that operation should be governed, to a certain extent, by the arterial tension, and if the arterial tension be persistently high, operation should be deferred, lest a malignant glaucoma arise. In regard to Dr. Posey's statement that he regretted the lack of statistics, Dr. de Schweinitz referred him to de Wecker's monograph and to a paper which he himself read before the Section on Ophthalomolgy in 1899. Dr. de Schweinitz agreed with those who approved of the use of miotics in this condition and spoke particularly in favor of nitroglycerin, provided that there is increased arterial tension. He emphasized the necessity for keeping the patient under observation. If the patient is advanced in years he would hesitate to do iridectomy, especially if there is high arterial tension or symptoms of arteriosclerosis, even if vision fails under the use of miotics, unless the case changed from chronic glaucoma to the subacute or congestive form.

If there is a disease characterized by progressive atrophy of the optic nerve, cupping of the nerve head, contraction of the field of vision and no periods of increased intraocular tension, these cases would certainly not present the indications for iridectomy, nor would they seem to present those for miotics. In the majority of cases in which this syndrome is present, careful examination will reveal that there are temporary periods of increased intraocular tension, and this, de Schweinitz said, is also de Wecker's belief.

DR. W. H. WILDER, Chicago, said that he is coming to believe that no good is done chronic glaucoma cases by iridectomy, particularly that class of cases to which Dr. de Schweinitz has referred. Dr. Wilder believes that many of these cases of so-called glaucoma are injured rather than benefited by operation. He has seen the fields contract more rapidly after operation and the central acuity lessen. We subject our patients to the risk of an operation which he considers one of the most difficult in all surgery. He hesitates about operating in these cases, and he believes the time is coming when we will know that this simple glaucoma bears no relation to general glaucoma except that it has cupped disc and sometimes increased tension. He thinks that the practice of teaching that glaucoma is a disease entity rather than a syndrome should be discontinued. It is a condition more dependent on general causes than on local ones. The keynote of the whole matter is that ophthalmologists must study the changes going on in the vessels and the increased arterial tension. Constitutional treatment is of more importance, he said, than iridectomy.

DR. PETER A. CALLAN, New York, said that it is not always a question of whether we want to use miotics, but of the patient refusing operation, thus obliging us to use them. If something is not done in the majority of cases these patients go from bad to worse. He has a patient whom he has had under treatment for three years because the man was not willing to submit to operation, but in several other cases while the vision remains good the fields are slowly and surely contracting. If Dr. Callan had glaucoma in one eye and the other showed no more evidence than contracted field, he would have the eye operated on. He thinks that an iridectomy properly performed is in no way harmful. He does not use the Graefe knife with incision at the limbus; he said that we should get back from the limbus 2 or 3 mm. and secure an iridectomy not to exceed 4 or 5 cm. This is perfectly feasible, even with a very shallow anterior chamber. If the patient has one blind eye from glaucoma and in the other 20/70 vision, and is old, he would use miotics; but he feels that iridectomy does no harm whatever if done properly.

DR. WILLIAM C. POSEY, Philadelphia, stated that he does not doubt for a moment the value of iridectomy in cases of glaucoma, but the question is not that, but, rather, Are miotics of

positive service in these cases, and are we justified in relying on them? For example, what is our duty in such a case as this: A patient has glaucoma in the initial stage; vision normal, both centrally and peripherally; slight cupping. What is to be done? Advise operation at once, or are there other methods to be employed? Authorities predominate in favor of iridectomy. When questioned if there is any danger from the operation, one may say, Yes, some eyes are lost. But even if this disaster does not occur, vision is never quite so good after the operation as it was before. There is always an astigmatic error following the corneal incision, and in many cases there are changes in the anterior capsule and in the lens. When told of these disadvantages, patients want to know whether there is anything to be done aside from operation, and what Dr. Posey insisted on is that ophthalmologists are warranted in assuring them that there is. The patients should be warned, however, that the treatment must be carried on the rest of their lives. If this be done conscientiously, and care be given to the manner of living, etc., it is not too much to tell them that sight may be preserved for many years, perhaps as long as life lasts. The one indication for iridectomy in chronic glaucoma, in Dr. Posey's opinion, is the presence of inflammatory symptoms, and it has been his experience that if miotics be continuously and properly administered in cases of a purely simple chronic type, such symptoms will but infrequently arise. He declared that the purpose of his paper was to indicate the undoubted value of miotics in chronic glaucoma and to ask that they be given the general respect and use which they deserve.

SYMPOSIUM ON ALCOHOL.

(*Continued from page 687.*)

DISCUSSION.

DR. WILLIAM LEE HOWARD, Baltimore, said that even yet the average physician does not know the difference between inebriety and dipsomania. During the past year he had one or two little clinical experiences that were new to him. Both patients were Army surgeons. They were truthful men, and Dr. Howard had no reason to disbelieve any of their statements. Both came to him for the periodical sprees or the treatment for dipsomania. One man was 42, the other 47. Both men told the same history of going into Army life late, of not being accustomed either to the rules or to the climatic conditions. Neither had been accustomed to drink to any extent. The attacks of dipsomania were conditions unknown until they had been in the Philippines from a year and a half to two years. One man would go off and disappear for from five to six weeks, with only a faint, hazy recollection of his condition. During that time he would generally consume enormous quantities of liquor, as dipsomaniacs will. The other also had attacks of dipsomania, with some sexual excesses. The history of both of these men was that the heat of the climate, conditions, etc., seemed to unstring them; and both of them had succumbed to heat stroke and both had been in the hospital for intestinal troubles, so called, dysentery at least. Dr. Howard said it was evident that there was a physical basis for this disturbance of the nervous organization which caused them to disappear at periods. One was an Irishman. He resigned from the Army and returned to Ireland. He reports that he has not had an attack for six months, but at the same time he does not feel himself. Dr. Howard believes that in all cases of dipsomania a physical cause, such as autointoxication, should be looked for.

DR. JOHN HUNTER, Toronto, Ontario, spoke in regard to inebriates found in the streets paralyzed from acute alcoholism. He thinks it would be a very much more humane plan if, instead of throwing them into the police wagon, an ambulance be sent for to take them to a special ward in an emergency hospital; because these men are in a very much more dangerous condition physically than a man who breaks his arm or his leg. He believe that the moral effect on them would be a thousand times better than the effect produced by being cast into prison, fined a small fine or retained a number of days. The care of a hospital for a week or ten days is as necessary for a person recovering from an acute attack of alcoholism as from a broken arm. Dr. Hunter referred to the evil influence on children who witness the common treatment of drunkards found by the police.

DR. CHARLES E. WOODRUFF, Detroit, said the reason why the Army does not do as the best railroads do and insist on total abstinence in important places is that the railroads themselves do not insist on total abstinence except in a very limited class of employés. The men who work the pick and shovel, the section hands, etc., the railroad does not care about; it is the men who have the lives of others in their hands, the engineer, the fireman, the train dispatcher, the telegraphers, conductors, brakemen, watchmen. They get very high pay and the company can make selection. The engineers get from $200 to $300 a month or more. Our soldiers get only $13 a month, and we can not make a selection. If Congress would raise the pay of the common soldier to $125 a month we could get 90 per cent. of abstainers in the U. S. Army, and the whole question would be settled.

PLAGUE IN AMERICAN CITIES.

(*Continued from page 688.*)

DISCUSSION.

DR. ELMER E. HEG, Seattle, Wash., said that so far as he knows there has never been a case of plague in Washington. He emphasized Dr. Foster's statements that plague must be always guarded against, especially by those in seaboard towns. Plague has been a nightmare to Dr. Heg ever since it has been in San Francisco. He agreed that plague may go half a mile or for thousands of miles, that it is carried by rats and fleas. So few physicians see cases that the great danger is in overlooking them and allowing the infected districts to continue and the disease to be carried from one place to another. Dr. Heg thinks that we do not know exactly the full extent of the animals that are liable to infection.

DR. T. B. BEATTIE, Salt Lake City, Utah, thinks that one point worthy of note brought out in the experience of California is the importance of avoiding concealment in the presence of serious epidemics of disease. At first the authorities in that state and in the City of San Francisco were inclined to conceal the fact after they had reason to know that the disease existed in the community, because of a false idea as to the protection of the interests of the community. While in most states the question of plague is not one that would seem to concern the health officer at this time, yet the lesson can be applied to all states and to the experience of all health officers in connection with that sentiment which obtains on the part of a good many members of the community—those who think their commercial interests are affected by the publicity attendant on the efforts of the health organization to suppress epidemics. Dr. Beattie stated that in the states of Utah and Colorado, during the epidemic of smallpox, the health authorities had very little support from the public, and were very seriously criticised for endeavoring to make known the prevalence of the infection. The consequence was that the press took it up, as they did in San Francisco, and very much confused the problem; and unquestionably, the result was a greater prevalence of the disease than otherwise would have resulted. Dr. Beattie also referred to the rebuke that was visited on the authorities in California when the fact once became thoroughly exploited throughout the country, and said that it was deserved.

DR. J. W. AMESSE, Public Health and Marine-Hospital Service, stated that he was on duty in San Francisco in 1900 as Dr. Kinyon's assistant when the plague first broke out there and that later, in Honolulu, Japan, China and Manila he had opportunity of seeing about two hundred cases. He believes that the rat is the primary host, and the flea the intermediary host. The rat, dying of the plague, and its coat containing numbers of fleas, these leave the dead body as soon as they possibly can and seek the nearest living body, which is usually the foot or leg of a native. In China almost every one goes with bare feet, the disease is endemic; but in China-

town, San Francisco, where the Chinese are well clothed and have plenty to eat and drink, the plague finds a very difficult foothold; in fact, it does not spread. Dr. Amesse believes that in four years there were but eighty cases of the plague in San Francisco, and this was attributed entirely to the fact that the Chinese were living under so much better auspices than their brethren in China, and to the further fact that they wore shoes, and thus afforded very little opportunity for the fleas to locate. Dr. Amesse earnestly endorsed the recommendations containing surveillance of seaboard towns.

DR. W. C. RUCKER, United States Public Health and Marine-Hospital Service, Vineyard Haven, Mass., said that one statement requires some further elucidation: that is, the question of the squirrels that were spoken of as carrying the disease. Dr. Foster, he said, evidently had not heard of the researches of Dr. Donald H. Currie, of the Public Health and Marine-Hospital Service, in this particular premise. Dr. Currie examined these squirrels very carefully and came to the conclusion that they were undoubtedly suffering from plague, and he found that an epidemic of plague was taking place in them. Dr. Rucker does not think that Dr. Currie has ever written this; he told him in personal conversation. From this Dr. Currie has formulated a theory that possibly there may be plague some day in the Mississippi Valley; possibly it may spread further east entirely by means of these rodents. These ground squirrels, which at that time were having an epidemic of plague in California, could easily carry the disease to other ground squirrels and across the mountains, and these in turn to the gophers inhabiting the Mississippi Valley, and they in turn would bring it to the ground squirrels on this side. Dr. Rucker saw nineteen or twenty cases of plague when on duty in San Francisco, and, like Dr. Amesse and every one else who has seen the disease, the transmission by the rodents is undoubted in his mind. In regard to the concealment of the disease, Dr. Rucker thinks that the idea that a community can better its commercial interests by concealing an epidemic disease is a very erroneous one, and that the concealment in the end causes greater harm to the commercial interests than if the officials had been frank and honest about it in the first place. The concealment of disease when it has been discovered leads always to the belief that the health authorities are dishonest, and then when they do come out and say there is disease one always says in his own mind: "There is more disease than is really stated, and since they have lied to us once they will lie to us again." Dr. Rucker thinks that health officers should bear in mind certain ideals which they must uphold, and said that they must not bow down to the mammon of commericial greed. When they find a thing they must fearlessly and honestly state exactly what they have in the way of an epidemic, and then the public will not think that there is more than is stated. Commercial relations will not be so much disturbed as if they had concealed the disease and then declared it after it had been found out.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and methods of treatment for the diseases seen especially in every-day practice. Contributions will be welcomed from our readers.]

Simple Elixir.

Edgar F. Heffner, Ph.G., in the *Pennsylvania Medical Journal*, discusses simple elixir as a vehicle in prescriptions intended for children. He was astonished to find occasionally a physician who thought simple elixir contained no alcohol, while the majority were of the opinion that simple elixir, and the medicinal elixirs of which it forms its basis, elixir calisaya, elixir gentian, etc., were of very slight alcoholic strength. The following prescriptions have come under his observation and are examples not only of pharmaceutical error, but also of incorrect prescription writing:

For a child four months old:

℞. Sodii bromidi	gr. viii	5
Elix. simplicis	ʒi	30

Sig.: Teaspoonful every half-hour or one hour, as needed.

For a 6-year-old child:

R. Potassii bromidi	gr. xviii	3
Elix. valerianatis ammonii	ʒiv	15
Elix. simplicis, q. s.	ʒiii	90

Sig.: One or two teaspoonfuls in water every one or two hours, as needed.

No physician would give a child four months old a quarter-teaspoonful of alcohol every half-hour, yet that is what the child would have been given had the prescription been filled as written. Compared with beer, it would have been the same as giving a tablespoonful, or equal to two teaspoonfuls of wine, or over half a teaspoonful of whisky or brandy.

Prescription No. 2 shows the same thing in a more frequently used form—the 6-year-old child would get with each two or four grains of bromid the equivalent in strength of one-half or one whole teaspoonful of whisky, which would effectively counteract the sedative effect of the bromid.

Says Heffner: "These examples need no extended comment as to the possible injurious effect of the alcohol on children, as we all fully appreciate them. It impresses on our minds the fact, however, that we must occasionally refresh the minds of our medical friends in cases of this nature, and the information, if given in the proper spirit, will be thankfully received by any physician needing it."

Heffner believes that the very common practice of giving bromids and similar sedatives in simple elixir is not a good one, as the effect of the bromid is seriously interfered with by the alcohol contained in the elixir.

The following is an example of a prescription fairly common in some localities:

℞. Sodii bromidi		
Chloralis hydratis, āā	ʒiv	15
Elixir simplicis, q. s.	ʒiv	120

Sig.: Two teaspoonfuls in water every half to one hour.

This at first makes a bright, clear solution, and the chemical incompatibility of chloral and alkaline bromids in alcoholic solution would be generally overlooked. On standing half an hour the chloral alcoholate will come to the top in a clear layer about one-fourth of an inch thick, and of a color very closely resembling the rest of the mixture. In one case the mixture was dispensed without a "shake" label, and the patient got nearly all the chloral in the form of alcoholate at the second dose. The use of an aromatic water and simple syrup as a vehicle in prescriptions of this nature would obviate any such danger.

Neuralgia and Headache.

Williams, in the *Clinical Journal*, states that two factors suggested by the presence of a neuralgia are an unsatisfactory blood state and the existence of an irritant. Anemia is certainly the commonest representative of the first factor. Whether this be due to convalescence from acute disease, to chlorosis, or to deficient coagulability of the blood or other cause, it is very frequently attended by neuralgia, more especially about the head and lower part of the trunk on the same side.

The treatment in such cases of neuralgia resolves itself into the treatment of the anemia by hygienic, dietetic and medicinal measures. Outdoor life in a bracing climate is to be advised. The diet should be generous, including meat foods and wines in moderation, and plenty of fats. Fats seem to be concerned in some very special manner with the nourishment of the nervous system, and may be freely given in the form of butter and cream. Iron stands first among the drugs, and Williams believes that the citrates and tartrates are more efficacious than the stronger salts, such as the sulphates and chlorids. The latter are more apt to upset the stomach, while the former seem to be more readily assimilated. A useful formula is as follows:

℞. Ferri et ammonii citratis	ʒiiss	10
Liquoris potassii arsenitis	ʒi	4
Infusii quassiæ, q. s. ad	ʒxvi	500

M. Sig.: One tablespoonful three times a day, after meals.

The following may be given later:

℞ Ferri et quininæ citratis sol.....3v 20
Liquoris potassii arsenitis.....3iss 6
Tincturæ nucis vomicæ.....3ii 8
Aquæ aurantii floris, q. s. ad.....℥xvi 500

M. Sig.: One tablespoonful three times a day, after meals.

The iron preparations in both the above mixtures may be increased, and Williams is of the opinion that the presence of the quinin in the mixture and in even larger doses may help to subdue the neuralgia. When giving iron in any form it is of the utmost importance that the bowels be kept open. Aloes seem to enhance the value of the iron and may be given alone or with cascara. A daily morning dose of a natural or artificial mineral water is often advisable.

When the neuralgia is an obstinate feature of the condition it is usually necessary to administer something which has a direct influence on the pain when it occurs. In anemic patients and in those in whom defective nutrition is pronounced he has had better results from quinin and gelsemium than from any other combination:

℞ Quininæ hydrochloridi.....m. lxxx 5
Acidi hydrobromici dil.....3v 20
Tincturæ gelsemii.....m. lxxx 5
Aquæ chloroformi, q. s. ad.....℥viii 240

M. Sig.: One tablespoonful every one-half to one hour until the pain ceases. Not more than four doses to be taken.

Even larger doses of gelsemium may be given. Williams thinks that the small doses frequently repeated are better than a single large dose.

In the gouty state with the neuralgic pains it is necessary to emphasize the advisability of examining for high arterial tension. If present the iodid of potassium is of special value in the treatment of the accompanying neuralgia. A frequent cause of neuralgia, especially in women, is the toxic state of the blood induced by chronic constipation. This condition must be treated by appropriate measures.

Flatulent Dyspepsia.

The *Medical Record* recommends the following:

℞ Aquæ chloroformi
Aquæ menthi piperitæ
Aquæ dest., āā.....℥ii 60

M. Sig.: One teaspoonful before each meal.

Stye.

Bjorkman, in *Merck's Archives*, recommends the following for this condition:

℞ Hydrargyri oxidi rubri.....gr. xii 70
Petrolati
Unguenti aquæ rosæ, āā.....3iv 15

M. Sig.: Apply morning and night after thoroughly cleansing with a hot boric acid solution.

Cough in Phthisis.

Shoemaker recommends the following mixture for the irritative cough so frequent in this condition:

℞ Codeinæ.....gr. i 065
Acidi hydrobromici dil.....3i 30
Syrupi aurantii, q. s. ad.....℥iii 90

M. Sig.: One or two teaspoonfuls every two to four hours for cough.

Medicolegal

Liability for Removal of Uterus Without Consent.

The Supreme Court of Illinois on the appeal of Pratt vs. Davis, an action by the latter party, by next friend, for trespass to the person, has affirmed the judgment of the Appellate Court affirming a judgment in the plaintiff's favor for $3,000. The decision of the Appellate Court was reported at length in the Medicolegal department of THE JOURNAL, March 11, 1905, page 822.

In partial explanation of the case, the Supreme Court says that at the time of the wrong charged the defendant was engaged in conducting a sanitarium. The plaintiff, a married woman about 40 years of age, came to this sanitarium for treatment for epilepsy, in May, 1896. She had been subject to epileptic seizures for a period of 15 years, but up to this time she had been able to perform her household duties and had borne four children, three since she first exhibited symptoms of epilepsy. The seizures had gradually been increasing in frequency. Following each of them she would be very weak in body and dazed and uncertain in mind for several hours. The evidence of those who knew her in her daily life was generally to the effect that her mind, except during the periods immediately following these attacks, was normal. The defendant made an examination of the pelvic organs, and found that the uterus was contracted and lacerated, and that the lower portion of the rectum was diseased. On May 13 he operated for these difficulties. Thereafter the plaintiff remained in the sanitarium without improvement several weeks and then returned home. On July 29, her brother-in-law, at the request of her husband, took her again to the sanitarium, and on the next day the defendant performed a second surgical operation on her, removing her ovaries and uterus. She continued at the sanitarium until August 8, and then was removed to her home. Neither operation was successful, so far as improving her health was concerned. She grew gradually worse mentally, and on August 25 was adjudged insane and sent to a state asylum. The cause of action was based on the removal of the uterus at the second operation. It was not claimed that the operation was unskillfully performed, but that it was performed without the authority or consent of the plaintiff and constituted a trespass to her person.

The declaration, so far as here material, averred that the plaintiff had placed herself under the care of the defendant, and that he, without her consent or the consent of any one authorized to act for her, anesthetized her and removed the uterus. There was no pretense that the plaintiff herself consented to the removal of the uterus. In fact the defendant testified that he told her just enough about her condition, and what he proposed to do, to get her consent to the first operation, and said, quoting his own language: "I worked her deliberately and systematically, taking chances which she did not realize the full aspect of, deliberately and calmly deceiving the woman; that is, I did not tell her the whole truth." And, referring to the first operation, he said: "She knew that the womb was to be operated on, and she was willing that should be done. Consent for further work was not obtained." Thereafter the defendant contended that the plaintiff was so mentally unsound as to be incapable of consenting or of giving intelligent consideration to her condition, and that her husband authorized the second operation. Whether the defendant was then mentally incapable of consenting was a question as to which the evidence was conflicting.

Ordinarily, where the patient is in full possession of all his mental faculties and in such physical health as to be able to consult about his condition without the consultation itself being fraught with dangerous consequences to the patient's health, and when no emergency exists making it impracticable to confer with him, it is manifest, the court goes on to say, that his consent should be a prerequisite to a surgical operation. Where the narr. (declaration) shows the act to have been a trespass to the person, or avers it to have been without the consent of the patient, it would seem to be unnecessary to go further and negative the fact that some other person, lawfully authorized to act for the patient, consented. The question of the consent of such other person, if in the case, might well be left to be presented by a plea in bar.

Furthermore, the Supreme Court is satisfied that the evidence as abstracted did not tend to show that the husband consented to the second operation. He testified that he did not, and that, when he first took his wife to the sanitarium, the defendant told him the operation would be a trifling one. The defendant said that, while he may have said this, "Davis said he was willing that I should do anything I thought necessary, only he made the request that I do as little as possible," and that he then told Davis, in substance, that two operations might be necessary. He also testified that while the plaintiff was at home her husband "told me she was no better. I told him to bring her back for the finishing work. I did not tell him what the finishing work would be. I had but one comprehensive talk with him. That was the

time he was there with the plaintiff." These two conversations were relied on by the defendant as authority given by the husband for the second operation. Without deciding what legal effect should be given to the husband's request or consent that a grave surgical operation be performed on his insane wife, the court thinks it manifest that the authority given by the husband in the conversation first quoted from was exhausted when the first operation was performed and the patient taken away. While it was true that the defendant said he told the husband in that conversation that he could not tell the extent of the surgery that would be necessary, and said that the defendant gave him carte blanche to do whatever he saw fit, it was yet apparent that neither then contemplated that the wife would be taken home after the first operation and later brought a second time to the sanitarium for the purpose of undergoing a second operation, and the court thinks it equally apparent from the defendant's testimony that the husband did not, at the time he was directed to bring his wife again for treatment, understand that any such operation as the removal of the ovaries and the uterus was to be performed, and that the mere fact that he, after that conversation, had his brother take the plaintiff to the sanitarium, was not to be regarded as tending to show consent to surgery of that character.

The defendant then contended that, in the absence of express authority to remove the uterus, the law would imply the necessary consent from the fact that consent was, as he said, obtained for the removal of the ovaries. But as there was no evidence which tended to show that any permission was obtained for the second operation, when the ovaries were in fact removed, the court holds that there was nothing to raise the implication in question.

Again, it was urged that the evidence showed no actual damages, that the judgment must therefore be made up of nominal damages and exemplary damages, and that this was not a proper case for the infliction of a penalty, wherefore the judgment should be reversed. The claim that there was no proof of actual damages was based on this statement found in the defendant's argument: "There is nowhere in the record a syllable showing any pain or suffering as a result of the removal of the uterus." But the Supreme Court says that some facts require no direct proof. That pain and suffering follow the removal of the uterus is one of such facts. The law infers pain and suffering from personal injury.

Finally, the Supreme Court says that where the patient desires or consents that an operation be performed, and unexpected conditions develop or are discovered in the course of the operation, it is the duty of the surgeon, in dealing with these conditions, to act on his own discretion, making the highest use of his skill and ability to meet the exigencies which confront him, and in the nature of things he must frequently do this without consultation or conference with any one, except, perhaps, other members of his profession who are assisting him. Emergencies arise, and when a surgeon is called it is sometimes found that some action must be taken immediately for the preservation of the life or health of the patient, where it is impracticable to obtain the consent of the ailing or injured one or of any one authorized to speak for him. In such event, the surgeon may lawfully, and it is his duty to, perform such operation as good surgery demands, without such consent. The case before the court, however, does not fall within either of these two classes.

Insufficient Presentation of Case for Revocation of License—Court Not Body of Medical Experts.

The Supreme Court of Rhode Island furnishes, on the appeal of Macomber vs. State Board of Health, some suggestions for those seeking to have licenses revoked for "gross unprofessional conduct" or "conduct of a character likely to deceive and defraud the public," as in this case. It says that it was evidently the intention of the State Board that the court should infer, from the language of various advertisements, that the statements therein contained were untrue, that the claims made were extravagant and therefore likely to "deceive and defraud the public," and that the physician by allowing his name to appear on some of them, or by distributing some of them to his patients or to inquiring parties, had been guilty of such conduct. Unfortunately, however, the State Board had not seen fit to offer any testimony to show that any one of the statements set forth was untrue in fact, or even that it was extravagant or misleading, or tending to "deceive" or "defraud the public." The evidence was submitted to the court as if the court were a body of medical experts fully qualified to pass on the numerous medical questions involved. It is hardly necessary to say that this court disclaims such qualification and can not take judicial notice of such matters, but is bound to form its judgments in such matters solely on the evidence adduced before it. Again, the court says, with regard to a device advertised about which the State Board of Health seemed to desire it to infer that it was a deception and a fraud, that the board was satisfied to place before the court the evidence of a single application of this device to a person not shown to have been suffering from any disease, and not shown to be of any expert capacity in the observation or investigation of devices of that character, and desired the court to infer, from the apparently negative character of this single experiment, that the repeated application of this device, according to the directions given by its inventor, was of no value to the patient, and therefore was a fraud and tended to "deceive and defraud the public." This evidence was purely negative, and did not assist the court in coming to any conclusion regarding the value or want of value of the device in question. As to its mechanical efficiency, whether or not it was capable of producing an electric current or "thermal electricity," it would have been very simple to have subjected the device to the examination of well-known electrical experts, under the conditions named in the circulars, and to have shown whether or not any such electrical energy was produced. The most cogent evidence to show that the physician had been guilty of "gross unprofessional conduct and of conduct of a character likely to deceive and defraud the public" would have been evidence from some one or more persons that he or they had been actually deceived and defrauded, had been led into expense without adequate benefit, or had been told that they would be cured of any of the various diseases mentioned, and had taken the treatment without results, or with bad results, or that the statements made as to cures actually effected were in fact untrue.

THE MINORITY (DISSENTING) OPINION.

[While the above is the official report, we believe it well to give briefly the dissenting opinion of one of the judges.

Judge Blodgett said that he could not agree with his professional brethren that the evidence did not show "that any one of the statements set forth is untrue in fact or even that it is extravagant or misleading or tending to 'deceive or defraud the public.'" He believed that the evidence established each of these propositions. In the first place it was undisputed that the appellant, Macomber, used the device known as the "Electricure," and that he distributed generally, and gave to the secretary of the State Board of Health, the "Blue Book" (Exhibit 15), which contained the following statements: "The Electricure . . . Absolutely Cures Consumption, Female Complaints, Paralysis, Rheumatism, Heart Disease, and all Acute, Chronic and Organic Diseases, no matter what their name or origin. . . . Let no invalid despair or seek the sea, the mountain or a foreign shore in search of health—perchance to die—when it can be surely found at home by the intelligent use of the Electricure, for cures are wrought by it that under the old sytem of medication are impossible."

It appeared that the promise was, not of benefit or of alleviation, but of "absolute cure;" that it was not limited to certain diseases, but embraced "*all* Acute, Chronic, and Organic Diseases, no matter what their name or origin;" that the device did not act by suggestion or through the imagination, but was "the most adequate life agent of the century." More comprehensive claims could hardly be made on behalf of the fabled Elixir Vitæ of the ancients.

Now, it was evident that the representation that this device "absolutely cures . . . all Acute Chronic and Organic Dis-

cases, no matter what their name or origin" was either true in all respects, untrue in all respects, or true in some cases and untrue in other cases. If, therefore, this court could not sit as a body of medical experts and assume that such representations were untrue in any respect, without evidence, could the court sit as a body of medical experts and assume that such representations were true in all respects, without evidence? The representations were disproved by evidence of a single exception. They were not sustained except by proof in all instances, and surely he must indeed be wise in the science and skilled in the art of healing who would assume the burden of affirmative proof in such a case. Hence it required an even higher degree of expert knowledge to assume the correctness of such a contention in every case than to deny its correctness in a given instance. But the record was not wanting in testimony that these representations were false.

For these reasons and others that appeared in the evidence, and in view of the fact that the statute which prohibits conduct "likely to deceive or defraud the public" does not require actual proof of such fraud, Judge Blodgett upheld the decision of the State Board of Health.]

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 9.

1 *Fresh Air Treatment in Hospital Wards. W. G. Thompson, New York.
2 *Resection of the Sigmoid Flexure. J. J. McGrath, New York.
3 *Conservative Surgery in Severe Inflammatory Affections of the Uterine Adnexa. H. N. Vineberg, New York.
4 *Cause of Common Baldness. D. L. Parker, Detroit.
5 *Potent Etiologic Factors in Backward Children. M. Neustaedter, New York.
6 *Extensive Leucoplakia Beginning in Childhood, Accompanied by Follicular Keratosis of Skin and Followed by Carcinoma of Tongue. M. B. Hartzell, Philadelphia.

1. Fresh Air Treatment in Hospital Wards.—Thompson presents the following conclusions: Ward heating and ward ventilation should be capable of independent adjustment at all times. The night temperature of the ward should be at least 5 degrees F. below the noonday temperature, which should not be above 68 or 70 F. The ward windows should have transoms and one or two movable separate panes. The window should be light enough to be easily handled. The wards should communicate with balconies or porches. The building of very large wards should be discouraged. The windows of the ward, even on the coldest day, should be opened at least twice daily. Day rooms should be provided for convalescents. The ward should have at least one accessible heater. The house staff and nurses should receive instruction concerning ventilation and should be made to put it into practice in the wards.

2. Resection of Sigmoid Flexure.—McGrath, after describing the details of his method, points out some of its advantages. When the suture is applied at the mesenteric border and tied, the mesenteric "dead space" is obliterated and the serous mesenteric layers are brought down into close contact with the wall of the gut—two conditions that are absolutely essential to the successful end-to-end intestinal anastomosis. The ends of this same mesenteric suture are used to accomplish the union of the two ends of gut, the tractors being used to facilitate the application of the suture so far as possible and the union being finally completed with the Lembert stitch. In order to prevent "pursing" of the suture, a back-stitch is made at every fifth or sixth thrust. This method is simple and efficient and no button or other mechanism is necessary to its accomplishment.

3. Conservative Surgery of Uterine Adnexa.—Vineberg reviews the history of 51 cases. There were two deaths. Of these 51 patients, 43 are practically cured and have menstruated regularly and normally since the operation. Vineberg emphasizes the fact that every effort should be made in the case of women under the climacteric age to cure the patient without sacrificing all her pelvic organs and without bringing on the artificial menopause.

4. Cause of Common Baldness.—Parker states that common baldness accounts for more than 90 per cent. of all cases of baldness. He discusses in this paper a theory that makes common baldness depend for its existence on a double cause, one being the remote or fundamental cause represented by the absence of upper chest breathing, a condition that allows a poisonous substance to develop in the lungs; the other, the direct or exciting cause, represented by the effect produced by this poisonous substance circulating in the blood.

5. Etiologic Factors in Backward Children.—Neustaedter concludes after carefully studying 95 cases of backward children in one school that it is the addiction to alcoholic stimulants or strong decoctions of tea or coffee, or to the smoking of cigarettes, or to a combination of two or all of the poisons enumerated that far outweighs in etiologic importance all of the physical defects combined. After discussing in detail the effects of these substances he declares that the use of alcohol, tobacco and coffee or tea is an immediately exciting cause of backwardness in children.

6. Extensive Leucoplakia Beginning in Childhood.—When first brought to Hartzell the patient was 11 years old. There was present an affection of the skin which consisted of irregularly shaped, variously sized patches of dirty gray spines on the sides of the neck, and hempseed sized, flat, slightly elevated, scaly lesions scattered over the back. These lesions were regarded as keratosic. Besides the cutaneous disease, the entire mucous membrane of the lips, tongue and cheeks was a bluish white. The skin disease had lasted 18 months. The duration of the leucoplakia was not certain. After treatment the skin affection disappeared, but the leucoplakia was scarcely affected. About four years later an epithelioma of the tongue was discovered. The growth was removed, but a few hours later the patient unexpectedly died from what was supposed to be pulmonary embolism.

Boston Medical and Surgical Journal.

February 7.

7 *Tumor of the Spinal Cord Leading to Destruction of the Lumbar Region, Hydrocephalus, Double Optic Neuritis and Painless Labor. E. W. Taylor, Boston.
8 Control of Syphilis and Venereal Diseases. P. A. Morrow, New York.

7. Tumor of the Spinal Cord.—The essential features of Taylor's case are as follows: A young, pregnant woman was suddenly seized with radiating pains down both legs, in September. The pain increased, and walking became difficult on account of the pain. The urine was at first under control. Later, the pain extended to the bladder and rectal regions, and in the latter part of December difficulty in micturition supervened, necessitating the occasional use of the catheter. Beginning mental disorder appeared at this time; pain extended into the back. There was beginning paralysis of the legs, standing alone being impossible; the urine was passed only with extreme difficulty; sensory disorders in the legs developed; loss of power in the legs rapidly supervened, together with disappearance of the reflexes. There was increase of mental confusion, disorientation as to time and place; extreme constipation, and complete urinary incontinence. Thereafter headache, much restlessness and discomfort, stiffness of the neck, and sensitiveness on moving the head occurred; there was also increasing headache and beginning optic neuritis, going on later to blindness. In the middle of January a painless labor occurred, the patient giving birth to a healthy child. There was a prickling sensation in the arms, but without paralysis. During February there was persistence of complete transverse lesion of the cord, with no faradic response in the muscles of the legs. Very marked mental disturbance supervened with final loss of the power of speech, and increasing apathy. Death occurred six months from the onset of the first pain. There was found at the postmortem an extensive tumor of the spinal cord, destructive in the lumbar region, and associated with internal hydrocephalus.

New York Medical Journal.

February 9.

9 *Open-Air Treatment in Psychiatry. W. Mabon, New York.
10 The Scranton Typhoid Epidemic. J. M. Wainwright, Scranton, Pa.

11 *Perforation of the Bowel in Typhoid. J. A. Scott, Philadelphia.
12 Radical Operation for Empyema of the Antrum of Highmore. L. Réthi, Vienna.
13 *Etiological Factors of Invalidism Following Childbirth. J. C. Applegate, Philadelphia.
14 *Atypical Manifestations of Paludism. J. J. France, Portsmouth, Va.
15 Degenerative Types of Myocardial Disease. H. Brooks, New York.
16 Beriberi, Its History, Symptoms, Causation and Treatment. J. P. Francez, Carencro, La.

9. **Open-Air Treatment in Psychiatry.**—Nabon says that the experience of the Manhattan State Hospital for the past five years shows conclusively that the open-air treatment is particularly beneficial to the following classes of the insane: 1, The tuberculous; 2, the feeble and untidy; 3, the retarded convalescents, and 4, the acute insane, in whom the psychosis is associated with anemic blood states, delirium and loss of sleep.

11. **Perforation of the Bowel in Typhoid.**—According to Scott, perforation of the bowel in typhoid fever is more common than is generally supposed, occurring once and a trifle over in every three deaths. The most common time of perforation is between the fourteenth and the twenty-first days. In 92 per cent. of the cases in his series the perforation occurred between the second and fifth week inclusive. The earlier cases are probably perforation in a relapse; now and then perforation may occur without evidence of previous illness. Perforation occurs in cases of all grades of severity from the ambulatory to the hemorrhagic type. It is most common in those with moderate (25 per cent.) and severe (50 per cent.) infection (75 per cent.). It is more common in the hemorrhagic than in the mild cases (from 10.8 per cent. to 8 per cent.). The ileum is the common site of perforation (88 per cent.); the majority occur within twelve inches of the ileocecal valve; the appendix and colon, respectively, are the next most frequent sites of perforation in this series of cases. Pain of some kind is present in 75 per cent. of all cases. In 50 per cent. of the cases the onset is sudden and severe and of increasing intensity, localizing itself to a special zone. In 20 per cent. of the cases the pain is of slow onset, not localized, with general distribution. In some cases (12 per cent. of this series) no pain is complained of, and the usual symptoms of perforation are absent. Tenderness and rigidity are present in from 75 to 65 per cent., respectively, of all cases, and are usually combined; in some cases either one or the other may be wanting, rigidity especially may be absent in cases with rather a pendulous and relaxed abdominal wall.

13. **Etiologic Factors of Invalidism Following Childbirth.**—Applegate is inclined to the belief that the predominant etiologic factors are "faulty technic" and too little regard for the "minor details" in the conduct of pregnancy, labor and the puerperium. The major details are of necessity, as a rule properly cared for.

14. **Atypical Manifestations of Paludism.**—France cites cases to show that chill, fever and sweating are not always the mode of onset of malarial infection; that the seat of pathologic change or congenital defect is often the point of attack of plasmodial invasion; that periodicity is one of the pathognomonic symptoms of all forms of paludal infection; and that women are oftener the victims of malarial infection than men.

St. Louis Medical Review.

February 2.

17 Medicinal Treatment of Trigeminal Neuralgia with Report of Two Successful Cases. G. W. McCaskey, Fort Wayne, Ind.
18 Abdominal Injuries. H. C. Dalton, St. Louis.
19 Pathologic and Clinical Diagnosis of Sarcoma. M. G. Seelig, St. Louis.

Lancet-Clinic, Cincinnati.

February 9.

20 Typhoid Fever. I. H. C. Cook, Hattiesburg, Miss.
21 Business Aspect of Medicine. G. Strohbach, Cincinnati.

Texas State Journal of Medicine, Fort Worth.

January.

22 Plea for Individual Scholarship. M. L. Moody, Greenville, Tex.
23 *Rupture of the Diaphragm. J. E. Hodges, Houston, Tex.
24 Ovarian Secretions in the Economy of Woman. M. Duggan, San Antonio.
25 Surgical Operation of the Labium Frenum. T. G. Bradford, Dallas.
26 Study of Four Hundred Miscellaneous Urines with Special Reference to Cast Finding. M. A. Wood, Galveston.
27 *Formaldehyd Gas as a Germicide and Insecticide when Generated from Formalin. J. T. Terrill, Galveston.
28 Dento-facial Orthopedia; Its Importance and Possibilities. J. G. Fife, Dallas.
29 *Report of Unusual Railway Injury. W. C. Jones.
30 Developments of Modern Surgery. J. M. Inge, Denton, Tex.
31 Chronic Malaria. J. T. FitzSimon, Castroville, Tex.
32 Digestive Disorders as Cause of Epileptic Seizures. T. W. Conerly, San Angelo, Tex.
33 Benefits to Young Children from Climatic Changes. E. J. Neathery, Sherman.

23. **Rupture of Diaphragm.**—Hodges reports the case of a man who was struck by a locomotive, receiving severe contusions of the left side extending from the clavicle almost to the crest of the ileum. The left foot was very cold, showing that the circulation was almost cut off, and there was a double fracture of the femur and a fractured rib. Two days afterward there appeared cellular emphysema over the region of the sixth rib, and it gradually became more perceptible. It was necessary to sustain the patient with stimulants, but these proved unavailing. The patient died. The necropsy disclosed the entire transverse and part of the descending colon and the stomach in the left pleural cavity, extending high up and obscuring the collapsed lung entirely. The diaphragm was found ruptured close to the attachment of the left crus, the rent being two and one-half inches in diameter. Just before death auscultation over the region of the cardiac apex revealed a fairly strong beat, but it seemed muffled, and following the beat was a peculiar gurgle and then a distinct splash. The findings at the postmortem explained the presence of these signs. The cardiac impulse against the distended abdominal viscera caused them to gurgle and move in the fluid contained in the pleural cavity with the production of a distinct splashing sound.

27. **Formaldehyd Gas as a Germicide.**—Terrill found on experimentation that the gas from ten ounces of formalin, two ounces of commercial sulphuric acid and five ounces of permanganate of potash in a properly closed room of 1,000 cubic feet space for four hours is sufficient for ordinary disinfection purposes. The method can be used by an inexperienced person, if clear directions are given, and the disinfection can be done in a day, the room being used again after two or three hours airing, especially after a little ammonia has been vaporized in it. As an insecticide, Terrill recommends a mixture containing double the quantities of each ingredient mentioned above, and six hours exposure.

29. **Unusual Railway Injury.**—An examination of Jones' patient, who was caught under the tender of a wrecked freight engine, disclosed the following injuries: The right leg was crushed above the knee, a comminuted fracture, with a considerable laceration of the soft structure, external to and opposite to the seat of the fracture. There was also a wound in the region of the perineum which extended from the os pubis down to and beyond the rectum, on to the coccyx, which was fractured. All the structures comprising the perineum were mutilated, lacerated or destroyed. The wound involved all the muscles of the pelvic outlet, the ischiorectal region and the anal and genital triangles. Inside of the pelvis all the muscles attached to the ischium were lacerated and torn from their attachments and the bone denuded of its periosteum could be plainly felt. All the soft structures surrounding the rectum were torn asunder so that this organ virtually stood suspended in the pelvis. The rectum itself was not seriously injured. The integument, superficial fascia, and in fact all the structures in front of the bulbous portion of the urethra were destroyed, so that four or five inches of that organ were clearly visible, disclosing a rent of from three to four inches in the urethra in its longitudinal direction.

New York State Journal of Medicine, Brooklyn.

January.

34 Medical Treatment of Gastric Disorders in which Help of Surgeon is Demanded. C. G. Stockton, Buffalo.
35 Surgical Aspects of Chronic Gastric Disease. J. G. Mumford, Boston.
36 Stool Examination; Its Value and Practice. D. Roberts, New York.
37 *Litholapaxy without Anesthesia. G. M. Muren, Brooklyn.
38 *First Year of Amalgamation in the Medical Society of the County of New York. F. M. Crandall.
39 History of the Medical Society of the State of New York. J. J. Walsh, New York.

37. **Litholapaxy Without Anesthesia.**—Muren reports 16 cases of vesicle calculus in which, with one exception, litholapaxy was done without anesthesia. Every effort was made to get the patient in as good condition as possible before any attempt was made to crush the stone. This included bladder washings, the use of some urinary antiseptic and attention to the general health. The crushings were all done in the office. The results were excellent. Muren emphasizes that in performing this operation without general anesthesia, care must be exercised in selecting suitable cases. Unless some special contraindication exists fragmentation and removal may be repeated once a week.

38. **Amalgamation in New York.**—As an example of the advantages of the new régime in New York State medicine, Crandall, the president of the Medical Society of the County of New York, presents a report to show that union and the new system of organization have brought a larger membership and greater income than ever before, and that the percentage of members who have paid their dues has been unprecedented. Crandall summarizes the results of his investigations regarding the effect of amalgamation as follows: The receipts from membership dues the first fiscal year after amalgamation were $2,189 greater than the average receipts for the five years preceding it, and $1,803 greater than for the year immediately preceding it; that 6.8 per cent. of the membership was in arrears for dues on December 31, 1906, as compared with 21 per cent. in arrears at the end of the year preceding amalgamation; that 2,178 members paid dues for the first year after amalgamation as compared with 1,476 for the year immediately preceding it; that is, 702 more members paid dues in 1906 than in 1905; that this increase of 702 was but partially due to the members received from the association.

American Medicine, York, Pa.

January.

40 *Fractures of the Spine. W. P. McIntosh, Portland, Me.
41 *Congenital Umbilical Hernia. H. W. Yates and J. E. Davis, Detroit.
42 *A New Proctoscope. J. P. Tuttle, New York.
42½ Etiology and Diagnosis of Epidemic Cerebrospinal Meningitis. N. B. Foster, New York.
43 Urine Segregation by Means of Kidney Massage. D. M. Cowie, Ann Arbor, Mich.
44 Local Bloodletting in Treatment of Dropsy of Cardiac Origin. A. Devoe, Seattle, Wash.
45 Gastric Dyspepsias Amenable to Surgical Treatment. W. E. Ground, Superior, Wis.
46 Acute Otitic Cerebral Abscess with Notes on Technic and Diagnosis. C. Jackson, Pittsburg.

40. **Fracture of Spine.**—McIntosh reports two cases of fracture of the spine that terminated in recovery. In one case a fracture of the sixth cervical vertebra was accompanied by marked deformity and crepitus but no paralysis. No attempt was made to reduce the fracture until three months after the receipt of the injury. Reduction and suitable after-treatment resulted in a complete recovery. In the second case, one of fracture of the fifth and sixth cervical vertebræ, there was dislocation forward and to the right side with very marked deformity, bulging forward of the front of the neck, flaccidity and bulging of the sterno cleidomastoids, with paralysis of both sensation and motion, abolition of tendon reflexes, but no interference with thermogenic centers. The fracture was reduced and a plaster jacket was applied. The patient made a complete recovery, although the extensors and supinators of the right arm were still paralyzed two months from the time of receiving the injury and the neck was stiff from ankylosis. McIntosh reviews 21 cases recorded in the literature and 6 cases of fracture of the dorsal and lumbar vertebræ in which recovery took place.

41. **Congenital Umbilical Hernia.**—Of the three cases reported by Yates and Davis in which a radical operation was done at four hours, sixteen hours, and one hour after birth respectively, one patient died from shock, four hours after operation; a second five days after operation, from peritonitis, making a mortality of 66.66 per cent. The patient who survived the operation lived three months, succumbing to an attack of mucous colitis. This patient was subject to frequent attacks of gastrointestinal inflammation.

42. **New Proctoscope.**—Tuttle describes a pneumatic proctoscope in which the electric lamp is enclosed in a glass globe, thus obviating all burning of the rectal mucous membrane. The instrument and its use are described in full.

Northwest Medicine, Seattle.

January.

47 Sanatorium Treatment of Tuberculosis and Its Relation to the State of Washington. F. H. Luce, Davenport, Wash.
48 *Value of Tuberculo-Opsonic Index in the Diagnosis of Strictly Localized Tuberculosis. W. R. M. Kellogg, Seattle.
49 Treatment of Tuberculosis in the State of Washington. H. M. Greene, La Crosse, Wash.

48. **Value of Opsonic Index in Localized Tuberculosis.**—Kellogg has determined the opsonic index in over thirty cases with some interesting results. The cases which have thus far been specifically affected by treatment based on the opsonic index are those of bone and joint tuberculosis, tuberculosis of glands and subcutaneous tissues, and genitourinary tuberculosis. Kellogg thinks that this treatment does not seem to apply to tuberculosis of the lungs as this is not a truly localized condition.

Annals of Surgery, Philadelphia.

January.

50 *End-to-End Arteriovenous Angiorrhapy. H. Lilienthal, New York.
51 *Rotary Dislocations of Atlas. E. M. Corner, London.
52 *Occlusion of Portal Vein Due to Surrounding Inflammatory Adhesions. G. Walker.
53 *Obliteration of Stomach as Result of Gastric Ulcer—Duodenostomy. J. B. Bullitt, Louisville.
54 Typhoid with Double Perforation of Ileum and Perforation of Gall Bladder. O. G. T. Kiliani, New York.
55 Intestinal Intussusception. R. C. Coffey, Portland.
56 *Resection of Ten Feet, Two Inches of Small Intestines, with Recovery. E. Staehlin, Newark.
57 Fractures of the Os Calcis and Astragalus. H. Cabot and H. Binney.
58 Old Fracture of the Tarsus. L. W. Ely, New York.
59 *Colossal Dermoid Cyst of Ovary of Over Fifty Years' Growth. H. F. Brownlee, Danbury, Conn.
60 Extirpation of Hypernephroma, Weighing 4¼ Pounds, from An Infant. W. S. Cheesman, Auburn, N. Y.
61 *Intraperitoneal Rupture of the Urinary Bladder. E. Quick, Appleton, Wis.
62 Drainage of Prevesical Space Through the Perineum in Suprapubic Cystotomy. W. T. Belfield, Chicago.
63 *Drainage of Prostatic Abscesses Through the Ischiorectal Fossa. W. C. Lusk, New York.
63½ Silverized Catgut. J. E. Blake, Brooklyn.
64 *Gonorrheal Osteomyelitis. R. C. Cupler, Chicago.

50. **Arteriovenous Angiorrhaphy.**—Lilienthal reports an unsuccessful case of arteriosclerotic gangrene of the leg in which the artery was anastomosed with the vein without a corresponding counter-anastomosis of vein into artery. He says that one point demonstrated by this operation is that the danger of immediate traumatic aneurism following the implantation of artery into vein in the human subject has been overestimated.

51. **Rotary Dislocations of the Atlas.**—Corner discusses the value of skiagraphy in diagnosing rotary dislocations of the atlas and reviews nineteen recorded cases. He says that the five points on which to rely for a diagnosis are the position of the head, the positions and fixity of the transverse processes of the atlas, the examination of the pharynx, and the skiagraph of the lateral view of the neck.

52.—**Obstruction of Portal Vein.**—Walker reports the case of a woman who for fifteen years had occasional attacks of what was thought to be indigestion. She was awakened early one morning by a severe pain in the right hypochondrium which radiated toward the umbilicus and downward toward the pubis. It lasted for two hours. There was no vomiting, no jaundice, but severe constipation and some rigidity of the abdominal muscles. After this the patient lost flesh rapidly, her appetite became poor and she suffered alternately from constipation and diarrhea. Four weeks after the attack fluid was first noticed in the peritoneal cavity. This rapidly increased until the abdomen was markedly distended. The temperature was normal, the pulse was 92, regular, but poor in volume. Six liters of a clear straw-colored fluid were withdrawn from the abdomen. The fluid contained a large number of corpuscles and clotted readily. No mass could be palpated, but there was tenderness and muscular rigidity. In a short time the fluid began to return and after five weeks three liters were withdrawn. Ten days afterward the patient died. At the necropsy there was found an inflammatory growth about the size of an orange, which matted together the

duodenum, the head of the pancreas, the gall bladder and the under surface of the liver. This mass also surrounded the portal vein and common duct. The duct was patent, but the portal vein was entirely occluded for about three quarters of an inch. The gall bladder contained three gallstones, which evidently were responsible for the condition.

53. **Obliteration of Stomach.**—The patient whose history is recorded by Bullitt had constant pain in the stomach, whether the organ was empty or full, and vomited incessantly. Symptoms of pyloric obstruction manifested themselves. Efforts to wash out the stomach proved futile, the tube could not be made to enter the viscus. The patient began to have great difficulty in swallowing food. The abdomen was opened, and a mass, the size of a medium-sized oyster shell was detected buried in adhesions and occupying the site where the stomach should be. This was finally identified as the stomach. An enterostomy was done, the duodenum being utilized for this purpose. The method employed was essentially that of Witzel in making a gastrostomy. The patient immediately received milk and broth through a funnel attached to the tube. In ten months he gained 40 pounds. He now eats everything, including meats, cabbage and sauerkraut, taking the food into the mouth, chewing it thoroughly and then directing it into a funnel connected to a tube passed about six inches into the artificial mouth. For many months digestion and bowel function have apparently been uneventful. There is practically no leakage from the fistula. The patient keeps a rag stopper in the opening between feedings in order to keep the opening dilated. About six meals are taken a day. The patient's general condition is good, and Bullitt says that nothing further will be done at present.

56. **Resection of Intestine.**—In Staehlin's case the resection of the intestine was made necessary by strangulation of a large, indirect inguinal hernia.

59. **Dermoid Cyst of Ovary.**—In the case reported by Brownlee the cyst and its contents weighed 32 pounds. The condition had existed for 50 years.

61. **Rupture of Bladder.**—Quick reports the case of a man who sustained an intraperitoneal rupture of the bladder as the result of a severe abdominal injury and subsequently suffered from anuria and a progressive abdominal distension. He was operated on 254 hours after the accident, and was discharged cured on the tenth day. It is noteworthy in this case that the patient performed his work as a laborer an entire day after the accident, and was not compelled to take to bed until the second day was well advanced. Shock was absent.

62. **Drainage of Prevesical Space.**—The procedure practiced by Belfield is as follows: When the operator is ready to close the wound, the membranous urethra is opened in a grooved staff, the gorget introduced and the staff withdrawn. A small trocar with canula is passed from above along the anterior surface of the bladder and prostate into the groove of the gorget. The trocar being withdrawn, a few silkworm strands are threaded through the canula and along the gorget out through the perineal wound (a small perforated rubber drain may be attached and drawn through by the threads). A large, soft catheter with multiple perforations having been introduced into the bladder for perineal drainage, the suprapubic incision, bladder and abdominal wall are closed completely except where the threads protrude, the anterior bladder wall being anchored near the recti muscles. Urine which may leak through the bladder wound, and tissue fluids, find ready exit at the bottom of this space. In nine of the eleven cases in which this method was employed by Belfield the wound healed within two weeks; in the remaining two cases—prostatectomies in which oozing was allowed to block the perineal drain—the wound was reopened for the insertion of a larger drain.

63. **Drainage of Prostatic Abscesses.**—Lusk suggests draining prostatic abscesses through the ischiorectal fossa in cases in which the abscess has not ruptured into the urethra and when a tense elastic tumor bulges toward the rectum.

64. **Gonorrheal Osteomyelitis.**—Cutler reports a case of gonorrheal osteomyelitis of the upper end of the left humerus coming on during the fifth week of an attack of acute gonorrheal urethritis. The diagnosis was confirmed by microscopic examination. Relief followed after a bone currettage.

Pennsylvania Medical Journal, Athens.

January.

64½ *Advances in Surgery of Nervous System. T. H. Weisenburg, Philadelphia.
65 *Late Cerebellar Abscess of Traumatic Origin. D. A. Webb, Scranton.
66 *Fracture of Skull from Direct Violence Through Inferior Maxilla. A. G. Fell, Wilkes-Barre.
67 *Present Status of Cranial Surgery. C. H. Frazier, Philadelphia.
68 Brain Complications Following Mastoiditis. F. W. Frankhauser, Reading.
69 *Trauma of the Head. J. H. W. Rhein and E. Martin, Philadelphia.
70 *Retarded Cerebral Development Due to Other than Cerebral Causes. E. Laplace, Philadelphia.
71 Tuberculosis of the Spine. J. K. Young, Philadelphia.
72 *Analysis of Kidney Condition in 800 Cases of Scarlet Fever, Treated with Chloral Hydrate. B. F. Royer, Philadelphia.

64½, 65, 66, 67, 69, 70. See abstract in THE JOURNAL, Sept. 29, 1906, page 1049.

72. See abstract in THE JOURNAL, Oct. 13, 1906, page 1220.

Kentucky Medical Journal.

February.

73 *Using Elasticity of Lung Tissue in Treatment of Disease of Thorax. E. W. Ford, Hartford.
74 Treatment of Acute and Chronic Suppuration of the Middle Ear. J. A. Stucky, Lexington.
75 Early Diagnosis and Treatment of Pulmonary Tuberculosis. W. F. Boggess, Louisville.
76 The Insurance Fee. A. T. McCormack, Bowling Green.

73. See abstract in THE JOURNAL, Oct. 27, 1906, page 1402.

The Therapeutic Gazette, Detroit.

January 15.

77 *Analysis of Kidney Condition of 800 Cases of Scarlet Fever Treated with Chloral Hydrate. B. F. Royer, Philadelphia.
78 Treatment of Gonococcic Conjunctivitis with Special Reference to Silver Salts. G. E. de Schweinitz, Philadelphia.
79 Diagnosis and Treatment of Multiple Neuritis. F. X. Dercum, Philadelphia.
80 Cholemia in Neurasthenia. H. Richardson, Baltimore.
81 Action of Several Agents on Intestinal Peristalsis, Striped Muscle, and the Heart. I. Ott and J. F. Ulman, Philadelphia.
82 Review of Opsonins and Bacterial Vaccines. E. M. Houghton, Detroit.

77. This article also appeared in the *Pennsylvania Medical Journal* for January.

The Post-Graduate, New York.

January 1.

83 Medical Examination of Children from the View Point of the Specialist. H. D. Chapin, New York.
84 Demonstration of Medical Examination. G. R. Pisek, New York.
85 Examination of Children from the View Point of the Surgeon. E. W. Peterson, New York.
86 Examination of the Rectum in Children. K. K. MacAlpine, New York.
87 Method of Examination of a Child's Eyes. A. E. Davis, New York.
88 Examination of the Ears. W. C. Phillips, New York.
89 Examination of the Skin. W. B. Brown, New York.
90 Examination of the Nose and Throat in Young Children. H. B. Douglass, New York.
91 Parenchymatous Transformation of the Renal Structures. A. Pisani, New York.
92 Penetrating Wounds of the Cornea. J. E. Virden, New York.
93 The Important Art of Prescription Writing. W. A. Weightman.

Virginia Medical Semi-Monthly.

January 25.

94 Uncinariasis. B. B. Bagby, Walkerton, Va.
95 Morphin Anesthesia. M. M. Moran, Pinners Point, Va.
96 Specific Urethritis in the Male. A. B. Sinclair, Charlottesville, Va.
97 Adenoids—Their Cause, Effects and Treatment. J. P. Davidson, Richmond, Va.
98 Pulmonary Tuberculosis: Prophylaxis. W. A. Plecker, Hampton, Va.
99 Review of Puerperal Eclampsia. W. J. Innes, Brookneal, Va.
100 Collapsed Alæ Nasi and Its Correction. D. D. Wilcox, Petersburg, Va.
101 Significance and Treatment of Winter Colds. O. H. Snider, Atlanta, Ga.

Providence Medical Journal.

January, No. 1.

102 Present Status of Substitute Feeding of Infants with Practical Conclusions. E. D. Chesebro, Providence.
103 Home Treatment of Tuberculosis by Class Method as Carried Out in Providence, with Exhibition of Cases. F. T. Fulton.
104 Migraine. F. T. Rogers, Providence.
105 Rabies—Origin, Cause, Symptoms, Diagnosis and Treatment. P. D. Hadley, Providence.

Indiana Medical Journal, Indianapolis.

January.

106 Stomach Trouble. T. B. Eastman, Indianapolis.
107 Cornell University and Purdue University. T. Potter, Indianapolis.

Journal of the South Carolina Medical Association, Greenville.

January.

108 Practical Methods in the Prevention of Malaria. L. L. Williams, Baltimore.
109 Traumatic Epilepsy and Its Treatment. A. J. Buist, Charleston, S. C.
110 Pneumonia. G. A. Neuffer, Abbeville, S. C.

Southern California Practitioner, Los Angeles.

January.

111 Contribution of Ophthalmology to the Diagnosis of Arteriosclerosis. A. L. MacLeish, Los Angeles.
112 Berlin—Its Opportunities for Postgraduate Work. D. Fulton, Los Angeles.
113 Methods of Disinfection. W. W. Roblee, Riverside.
114 Case of Primary Ocular Diphtheria. F. W. Miller, Los Angeles.
115 The Doctor and the Child. G. E. Abbott, Pasadena.
116 Primary Carcinoma of the Bladder and Urethra in the Female. D. C. Ball, Santa Ana.
117 Health and Development of School Children. G. L. Leslie, Los Angeles.

The American Practitioner and News, Louisville.

January.

118 The Orang-Outang. B. Robinson, Chicago.
119 Diagnosis of Digestive Disorders. J. J. Moren, Louisville.
120 Our Neglected Insane. T. P. Satterwhite, Louisville.

Fort Wayne Journal-Magazine.

January.

121 Clinical Importance of Abdominal Pains in Relation to Intrathoracic Lesions. B. Van Swearingen, Fort Wayne.
122 Simple Elixir as a Vehicle in Prescriptions Intended for Children. E. E. Heffner, Lock Haven, Pa.

University of Pennsylvania Medical Bulletin, Philadelphia.

January.

123 Coxa Valga or Collum Valgum. J. K. Young.
124 Roentgen Rays in Diseases of the Blood and Blood-Forming Organs, with Report of Cases. H. K. Pancoast, Philadelphia.
125 Primary Squamous Carcinoma of the Gall Bladder. J. Speese.

Columbus Medical Journal, Columbus, Ohio.

January.

126 Parotiditis as a Complication in Pelvic Surgery. E. Lanphear, St. Louis.
127 Is Materia Medica a Proper Subject for First Year Students? A. J. Girardot, Toledo.
128 The Logical Place of Materia Medica in the Curriculum. T. Sollmann, Cleveland.

Central States Medical Monitor, Indianapolis.

January.

129 Newer Facts Concerning Phagocytosis; the Opsonins. L. W. Famulener, Bloomington.
130 Pelvic Tuberculosis. E. Charles, Summitville, Ind.
131 Rural Hygiene. C. L. Botkin, Farmland, Ind.
132 Advantages of Knee Chest Position for Deep Urethral and Cystoscopic Examinations. J. E. Morrow, Indianapolis.

Medical Fortnightly, St. Louis.

January 25.

133 Chronic Constipation and Its Treatment. G. F. Butler, Chicago.
134 Exophthalmic Goiter. H. P. Wilson, Mediapolis, Ia.
135 Talks to Recent Graduates. A. L. Benedict, Buffalo.

Annals of Gynecology and Pediatry, Boston.

January.

136 Ectopic Pregnancy. H. F. Quackenbos, New York.

St. Louis Courier of Medicine.

January.

137 Looking Back—Résumé of Literature of 1906. E. A. Babler, St. Louis.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

January 26.

1 *Common Errors in the Diet and General Hygiene of Children. A. F. Voelcker.
2 *Postpartum Hemorrhage. J. F. LePage.
3 *Treatment of Myoma of the Uterus. J. F. Jordan.
4 *Cesarean Section in a Case of Contracted Pelvis with Twin Pregnancy. G. H. Cowen.
5 *Acute Illness Supervening During Menstruation. T. Holmes.
6 *Obstructed Labor Due to Osteosarcoma of Pelvis. M. B. Ray.
7 *Influence of an Excessive Meat Diet on Fertility and Lactation. B. P. Watson.
8 The Food Factor in the Twentieth Century. G. J. Sealy.
9 *Multiple Myeloma. J. R. Charles and H. H. Sanguinetti.
10 Scurvy Occurring in a Diebetic. W. E. Jones.
11 *Vaccination of the Cornea. J. A. Menzies and W. E. Jameson.

1. **Diet and Hygiene of Children.**—Boelcker is emphatic in stating that unless physicians recognize what actually takes place in their patients when they are not under the doctor's eye, they run a great risk not only of doing their patients little or no good, but they bring discredit on their art and fail, often quite deservedly, in their treatment. He believes that at present there is a tendency on the part of physicians to pay too little attention to detail and to think too highly of diagnosis rather than of treatment. The paper contains much valuable information on the diet, feeding and clothing of children, on ventilation, exercise, sleep and baths, for which the reader is referred to the original, as an abstract would necessitate the complete reproduction of the paper.

2. **Postpartum Hemorrhage.**—LePage says a word in favor of compression of the abdominal aorta as a means of treating postpartum hemorrhage. Having rendered any further serious hemorrhage impossible, the next step is to increase the volume and current of the blood and to assist uterine contraction. This is done by raising the pelvis to cause the blood to gravitate toward the heart and brain, and to raise the arms and legs, bandaging them firmly to prevent the return of blood when they are lowered. Ergot and other remedial means may then be used. The uterus should be cleared of clots or retained portions of placenta.

3. **Treatment of Myoma of Uterus.**—Jordan favors abdominal hysterectomy because it enables the surgeon to do a thorough and careful operation, relieves him of unnecessary anxiety, gives the patient freedom from pain and insures an easy convalescence.

4. **Cesarean Section.**—In the case reported by Cowen, Cesarean section was done at term after the os was dilated enough to admit two fingers. Although the true conjugate was about three and one-third inches, the largest diameter of the fetal head could not be made to enter the brim by pressure in various directions from above. Twins were not suspected, being only found when the uterus was opened. One interesting feature in the case was that the uterus would not contract properly until the deep sutures were tied. The patient made an uneventful recovery.

5. **Acute Illness During Menstruation.**—Holmes reports 6 cases of acute illness coming on during an apparently normal menstrual period. In four of these cases a tumor was palpable over the ovary, and Holmes is of the opinion that hemorrhage from a Graafian follicle engorged with blood at the menstrual period may be the starting point of some of these cases, and that undue exertion might be the last factor in determining the rupture.

6. **Obstructed Labor.**—Ray reports a case of mixed cell sarcoma of the sacrum and coccyx in which the tumor obstructed labor to such an extent as to necessitate surgical intervention. The patient died from hemorrhage.

7. **Influence of Excessive Meat Diet on Reproduction.**—The method of conducting the investigation made by Watson was as follows: Twelve female rats and several males were put on a bread and milk diet, and the females were continued on this throughout pregnancy and lactation. These served as the controls. Seventeen females and five males were put on an ox-flesh diet, but were otherwise under exactly the same conditions as the animals given bread and milk. The animals were begun on a meat diet at various ages, from the second up to the fourth month, and some of them were kept on the diet for as long as five months. Of the 17 animals fed on a meat diet only 8 became pregnant, and of these 4 bore young within 21 days (the usual gestation period in the rat) of being put on the diet, so that only 4 actually conceived while on meat feeding. Of these latter one had been 24, one 25, one 27 and one 30 days on an exclusive ox-flesh regimen. The other 9 animals, although kept for several months, did not conceive, and this in spite of the fact that they were seen to copulate freely right up to the end of the experiment. Of the 12 animals fed on a bread and milk diet all became pregnant and had young; so that we may conclude that a meat diet is decidedly prejudicial to the occurrence of pregnancy in rats when the diet is begun when the animals are from two to four months old. As a result of these experiments Watson is convinced that a meat diet in rats affects prejudicially their powers of reproduction, as well as lactation, and these results suggest to him that the increasing consumption of animal food in Great Britain may be an important factor in the causation of the

decrease in the birth rate and the diminished powers of lactation.

9. **Multiple Myeloma.**—Charles and Sanguinetti report a case of multiple myeloma occurring in a man aged 72, in which no myelopathic albumosuria was present on the occasions when the urine was examined for this purpose. The patient died and the findings of a very carefully done postmortem are reported in full.

11. **Vaccination of Cornea.**—Menzies and Jameson report an instance of accidental vaccination of the cornea occurring in one of them (J.) following the breaking of a tube of lymph, a fragment of the tube striking the eye. The corneal lesion manifested itself on the following day. It persisted for about five weeks, recovery being retarded by the occurrence of a secondary ulceration.

The Lancet, London.

January 26.

12 *Erythema Nodosum and Rheumatism. J. O. Symes.
13 Spirillum Fever in Uganda. R. U. Moffat.
14 Roentgen Rays in the Treatment of Carcinoma and Sarcoma. C. Williams.
15 *Two Cases of Traumatic Rupture of the Kidney, in one of which a Single Kidney Existed. J. G. Andrew.
16 *New Test for Sugar. H. J. H. Fenton.
17 Induction of Autovaccination in Tuberculosis and Other Chronic Glandular Infections by the Roentgen Rays. H. D. McCulloch.
18 *Tracheotomy in Slight Respiratory Obstruction Associated with Febrile Toxemia. A. O. Bisson.
19 *Glandular Extract from Immunized Animals as a Curative Agent in Plague. S. Mallannah.

12. **Erythema Nodosum and Rheumatism.**—Symes is of the opinion that there is much to support the view that erythema nodosum is a specific acute febrile disorder; that infection takes place through the tonsils or lungs; that after a prolonged incubation period and period of prodromal symptoms a specific rash appears, and that convalescence is accompanied by profound anemia and malaise; but, he says, the evidence of a relationship between an erythema nodosum and rheumatism is of a conflicting nature.

15. **Traumatic Rupture of Kidney.**—The two cases reported by Andrew resemble each other in the following points: 1, Both patients fell on the loin; 2, the injury in both cases was direct—one a fall on the edge of a stair, the other on the edge of a pail; 3, in both blood was present in the urine immediately after the accident; 4, in both the ruptured kidney could be felt by palpation, in each case extending round the abdomen toward the umbilicus and tender to touch; and 5, in both the swelling was clearly behind the peritoneum.

16. **Test for Sugar.**—The new test for sugar described by Fenton is said to be sufficiently delicate to detect 0.2 per cent. or less of sugar in any liquid. For the examination of urine the test is most conveniently applied in the following way:

Pour a small quantity (4 or 5 c.c.) of the liquid on to an excess of solid anhydrous calcium chlorid so as to form a semisolid, or pasty, mass. Add to this 10 c.c. of toluene containing two or three drops of phosphorous tribromid and then carefully boil the mixture for a few minutes, bearing in mind the inflammable nature of toluene. Pour off the toluene solution and, after cooling, add, to it about 1 c.c. of malonic ester and a little alcohol. On neutralizing the mixture by adding alcoholic potash, drop by drop, a characteristic pink color will usually be observed. The mixture is now considerably diluted with alcohol and a few drops of water when, if sugar was originally present, the solution will exhibit a beautiful blue flourescence.

The reaction appears to be a specific one for carbohydrates which contain six or more atoms of carbon in the molecule and may therefore be used to distinguish hexoses from pentoses or other lower sugars.

18. **Tracheotomy in Slight Respiratory Obstruction.**—In reviewing the cases described by Bisson it appears that in all of them the operation was beneficial. In the greater number the benefit proved only temporary, but there were cases in which the patient's life was saved. Most of the patients who died were very young.

19. **Glandular Extract in Plague.**—Mallannah records the results obtained from the use of glandular extract from immunized animals as a curative agent in plague. The various stages of his experiments are detailed in full, and the results are very encouraging.

Tropical Medicine and Hygiene, London.

January 15.

20 Oriental Sores: Leishman Bodies Incubation Period of Five Months. P. Manson.
21 Euquinine—Its Suggested Use in Blackwater Fever. W. Hartigan.
22 "Bihimbo" Disease—The Nature of This Disease Met in Chaka District of the Uganda Protectorate. A. G. Bagshawe.
23 House Sanitation. D. Cooper.

The Practitioner, London.

January, 1907.

24 Influenza. T. C. Allbutt.
25 Clinical Aspects of Influenza. R. D. Powell.
26 *Therapeutics and Prophylaxis of Influenza by Quinin. W. Broadbent.
27 *A Possible Source of Influenza. D. Duckworth.
28 *Thoughts on Influenza. J. Moore.
29 General Considerations on Influenza. S. West.
30 *Respiratory Complications of Influenza. H. Mackenzie.
31 *Influenza as It Affects the Nose and Throat. St. C. Thomson.
32 *Influenza in Relation to the Digestive Organs. N. Dalton.
33 Influenza and Appendicitis. D. Armour.
34 Cardiac Complications of Influenza. J. Cowan.
35 The Nervous System in Influenza. W. Harris.
36 The Psychoses of Influenza. T. C. Shaw.
37 Ocular Manifestations Accompanying Influenza. H. W. Lyle.
38 Aural Complications of Influenza. A. H. Cheatle.
39 Micro organisms of Influenza. W. d'E. Emery.
40 *Influenza from a Public Standpoint. A. Newsholme.

26. **Quinin in Influenza.**—Broadbent considers quinin the best remedy in influenza. As a prophylactic he gives two grains every morning during the prevalence of the epidemic. For the cure of the patient his usual prescription is one dram of ammoniated quinin, and two drams of liquor ammoniæ acetatis, every hour, for three hours, and then every four hours. In the fulminating attacks of influenza in which the patient has become comatose, he states that hydrobromate of quinin given hypodermically in large doses completely relieves the unconsciousness.

27. **Possible Source of Influenza.**—Duckworth thinks that imperfectly ventilated rooms in hotels and elsewhere, and sleeping berths on trains, may be possible sources of influenza. Effective disinfection of the furniture, curtains and blankets in such rooms or sleeping cars would materially diminish the risk of infection.

28. **Treatment of Influenza.**—For the distressing rheumatoid or neuralgic pains of influenza Moore recommends a combination of salicylate of sodium with granular effervescent citrate of caffein; or phenacetin, 3 to 5 grains; tincture of gelsemium, 5 minims, and chloroform water, one-half ounce.

30. **Respiratory Complications of Influenza.**—When the cough is dry and paroxysmal, Mackenzie gives heroin hydrochlorid in doses of from 1/36 to 1/12 of a grain, at intervals of from one to two hours. When the cough is frequent and severe he employs the following:

℞.	Morphinæ hydrochlor.	gr. ½	03
	Apomorphinæ hydrochlor.	gr. ¾	045
	Acidi hydrochlor. dil.	m. xx	1 25
	Syr. pruni virginianæ	℥ss	15
	Aquæ	℥ii	60

Ft. linct. Sig.: One teaspoonful as necessary.

When there is bronchitis, a mixture containing citrate of ammonia, citrate of potash and ipecacuanha wine is useful:

℞.	Liq. ammonii citratis	℥iss	6
	Potassii citratis	gr. xv	1
	Vin. ipecacuanhæ	m. v	3
	Aquæ	℥i	30

Sig.: One teaspoonful three times a day.

31. **Cough in Influenza.**—Thomson prescribes the following for so-called "stomach coughs" frequently seen in cases of inflenza:

℞.	Acidi hydrochlor. dil.		
	Acidi nitrici dil., ää	℥ss	2
	Glycerini	℥ss	15
	Infusi quassiæ	℥vi	180

M. Sig.: A tablespoonful in a wineglassful of water three times a day.

32. **Influenza and Digestive Organs.**—Dalton says that the treatment of influenza of the gastrointestinal tract must be expectant. Strong measures should be avoided. Antipyretics and purgatives must be used with caution. Intestinal antiseptics should be tried and cardiac stimulants will be needed.

40. **Influenza from Public Health Standpoint.**—Newsholme says that it does not appear likely that any isolation of influenza patients on a sufficiently large scale to influence the result can ever be enforced successfully because the period of incubation is short; the disease is infectious in the earliest stage before its nature is recognized; the diagnosis is diffi-

cult, and many cases are so extremely mild that the patient is not obliged to remain indoors. He says that disinfection of invaded houses does not appear to be required. The contagion of influenza is very short lived.

Bulletin de l'Académie de Médecine, Paris.

41 (LXX, No. 44, pp. 609-634.) Distribution of Phosphorus in Food. (Phosphore dans les aliments.) Balland.
42 *Etiology and Prophylaxis of Malaria. (Paludisme.) Kelsch.
43 (LXXI, Nos. 1-2, pp. 1-102.) Bacillary Dysentery and Abscess in Liver. Dys. bac. et abcès du foie.) L. E. Bertrand
44 *Sanitary Defense of Paris. (Défense sanitaire.) A. J. Martin.
45 *Inflammatory Tuberculosis and Arthritism. (Les arthritiques, ou prétendus tels, ne sont souvent que des tuberculeux.) A. Poncet and R. Leriche.
46 Contagion and Endemic Diseases in the French Colonies, 1905. (Maladies endémiques, etc.) Kermorgant.
47 *Statistics of Amputations of Breast for Cancer. (Cancer épithélial du sein.) Le Dentu.

42. **Prophylaxis of Malaria.**—Kelsch presents a number of arguments against ascribing too exclusive etiologic importance to the mosquito in respect to malaria.

44. **Sanitary Defense of Paris.**—Martin reviews the work done in 1905 by the disinfection and vaccination services and the like in Paris. There are four disinfecting stations, and disinfection was done at the house or station in 58,470 cases. The death rate has fallen from 22.33 per 1,000 inhabitants in 1892 to 17.4 in 1905. There were 2,694 less deaths from the transmissible diseases in 1905 than in 1892.

45. **Unrecognized Tuberculosis in Arthritics.**—Poncet and Leriche discuss the affections due to sluggishness in the nutritional processes. Any cause acting for a long time may slowly produce and even fasten on the offspring this sluggishness in the nutritional processes, they say. Any latent infection or intoxication may gradually modify the soil and induce this sluggishness in the nutritional processes, which is called, for want of a more accurate term, the "arthritic" or "rheumatic" tendency. The diplococcus of rheumatism, intestinal autoinfection and the tubercle bacillus are all liable to transform, in time, a healthy soil into arthritic soil. The lesions and affections called arthritic are frequently merely the expression of mild local tuberculosis, which in time vaccinate the soil against malignant tuberculosis. The tuberculous should be divided into two classes—patients with classic, active tuberculosis, specific from the standpoint of pathologic anatomy, and fatal in the course of a few months or years, and secondly, patients with non-specific tuberculosis, in whom the inflammatory tuberculosis induces merely an ordinary inflammatory reaction in the tissues—primary hyperemia, secondary inflammation and final sclerosis. They classify them as *les grands tuberculeux* and *les petits tuberculeux*.

47. **Survival After Removal of Mammary Cancer.**—Le Dentu says that 10 patients on whom he operated for epithelial mammary cancer from six to nineteen years ago are in good health to date. Seven others in the same group survived from three to sixteen years. Twenty others survived from five months to nearly fourteen years, and three in this group succumbed to intercurrent affections. These figures are the record of 53 private patients with mammary cancer, confirmed by the microscope, on whom he has operated.

Presse Médicale, Paris.

48 (XV, Nos. 1-2, pp. 1-16.) Technic of Applying Ions in Therapeutics. (Thérapeutique ionique.) P. Desfosses and A. Martinet.
49 Rational Use of Tarnier Retractor. (Ecarteur Tarnier). C. Jeannin.
50 *Diagnosis of Tuberculosis of Genitourinary Apparatus from Microscopic Examination of Urine. (Diag. de la tub. de l'appareil gén.-urin.) J. Moscou.
51 *Therapeutic Influence of Air in Rapid Traveling. (Influence de la course rapide.) L. Bakaleinik.
52 Karyogamy as Theory of Origin of Cancer. (Pathogenie du cancer. Théorie karyogamique.) L. Hallion.
53 Etiology and Pathogenesis of Nutmeg Liver. (Foie muscade.) E. Géraudel.
54 *Prevention of Hematoma in Operating on the Scrotum. Capitonnage dans les op. sur les bourses.) R. Siegel.
55 (Nos. 3-4, pp. 17-32.) Stenosis and Atresia of the Cervix in Multiparæ. (Sténose et atrésie du col chez des femmes ayant eu des enfants.) F. Jayle.
56 *Hygiene of the Staircase. (Hygiéne de l'escalier.) A. A. Rey.
57 *Teaching the Tuberculous not to Cough. (Procédé du pointage des quintes.) C. Mantoux.
58 *Rectifications in Regard to the Aphasia Question. (Aphasie.) P. Marie.
59 Antityphoid Serum. (Sérum antityphique.) A. Rodet and Lagriffoul.
60 Importance of Examination of the Mouth in Case of Dubious Syphilis. (Examen de la bouche.) L. M. Pautrier.

50. **Microscopic Examination of Tuberculous Urine in Case of Genitourinary Tuberculosis.**—Moscou confirms Colombini's statements in regard to the frequent presence of misshapen leucocytes in the urine in case of a tuberculous lesion in the genitourinary apparatus. The leucocytes obtained by centrifugation are irregular in shape, indented, with the protoplasm outlined by small transparent bullæ. It is impossible to distinguish the nucleus and the granulations in leucocytes thus deformed. These findings were constant in 18 out of the 22 tuberculous patients examined, but in the four other cases of unmistakable tuberculosis the leucocytes were apparently normal. Two other patients with gonorrhea or urinary calculi also presented the same changes in the shape of the leucocytes. The finding is not pathognomonic for tuberculosis, but may be useful as an accessory sign. Moscou also found that by modifying the medium the leucocytes resumed their normal appearance.

51. **Influence on the Organism of Rapid Passage Through the Air.**—Bakaleinik had occasion to take long trips on the Siberian Railroad and made a practice of riding on the front of the engine. He found by tests on himself and others that the extraordinary aëration of the lungs thus induced stimulated the metabolic processes and improved the general health. He advised a patient with apical tuberculosis to try it, and after 33 days spent in traveling on the locomotive, plus 45 days on a steamer, keeping all day in the prow, the patient is apparently entirely cured. He had previously taken the fresh air cure, etc., for months without benefit.

54. **To Secure Prompt Healing After Operations on the Scrotum.**—Siegel prevents the development of a hematoma after operations on the scrotum by applying the lips of the incision together, face to face, drawing them up above the surface of the scrotum, thus obliterating the entire cavity left after the operation. The walls applied face to face to the depth of the pre-existing cavity are fastened together by a row of U-shaped sutures taken through both, at the base of the projecting portion, close to the surface of the rest of the scrotum. Each of these stitches is tied over a small roll of gauze on each side. The lips of the wound are then sutured together as usual, and the U stitches are removed after the parts are healed, when the skin readily slides back into place. The article is illustrated.

56. **Hygiene of the Staircase.**—Rey refers to the staircase in large flat buildings, and shows how dark, unventilated staircases can be done away with. His plan is a logical sequence of his other proposals for the hygiene of houses, some of which have been mentioned recently in these columns. Instead of a dark, central court he would have the building in two or more parts, with a court running entirely through between them, thus ensuring light and air without loss of any more ground space. The staircase, he claims, should be built in this open court, not in the building proper. He also suggests that the steps should be cut rounding and thus narrower at the sides, to make them easier for children.

57. **Education in Regard to Coughing.**—Mantoux has found that an effectual means of suppressing useless coughing is to instruct patients in its uselessness and harmfulness, and then to have them note down on a sheet of paper every time they cough. He calls for the record at each visit, and it is astonishing, he says, h w soon they learn to conquer the impulse to cough rather than have a long record to show him.

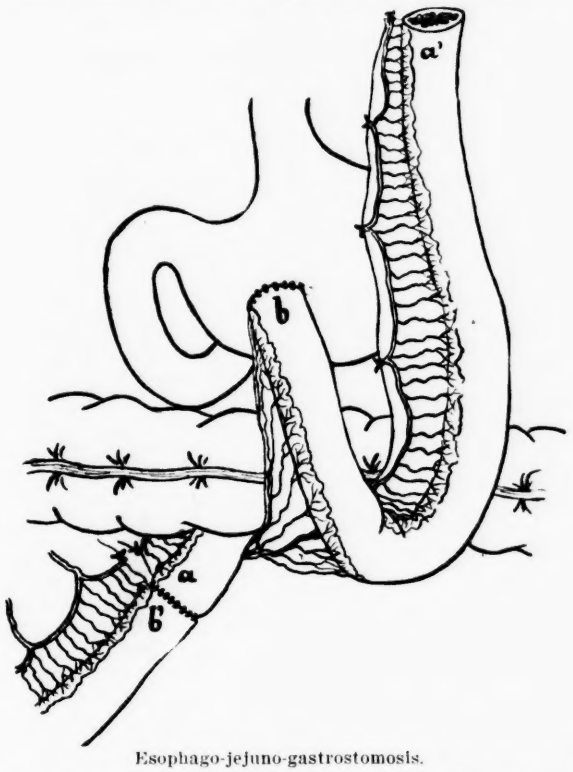
58. **Rectifications in Regard to the Question of Aphasia.**—Marie here replies to some articles published recently by Dejerine in the *Presse Méd.*, presenting arguments against the new views advanced by Marie. He takes up these arguments in turn and states that the data cited are directly confirmatory of his views, although Dejerine tortures them to make them say the contrary of what they really mean.

Semaine Médicale, Paris.

61 (XXVII, No. 3, pp. 25-36.) *Pathogenesis of Congenital Icterus in Adults. (Ict. cong. de l'adulte.) A. Chauffard.
62 (No. 4, pp. 37-48.) *Esophago-jejunogastrostomosis to Remedy Impassible Stricture of the Esophagus. (Nouvelle opération pour rétrécissement infranchissable de l'esophage.) Roux.
63 *Action of Dechloridation on Bradycardia and its Interpretation according to the Myogenic Theory. (Action de la déchloruration sur le pouls lent permanent.) E. Enriquez and L. Ambard.

61. **Congenital Icterus in the Adult.**—Chauffard sifts the literature on this subject and reports the details of a case in which a young man exhibited icterus without being actually sick, without choluria or enlargement of the liver or gall bladder, while the stools showed the presence of bile, the urine of urobilin, and the spleen was much enlarged and fibrous. The persistent icterus was noted the day after birth, and, as the child grew, it became aggravated by fatigue. The diet did not seem to influence it. Chauffard regards the case as one of hemolytic icterus, the blood corpuscles having little resisting power, as he determined by various tests. The primordial and predominant rôle in the whole syndrome is played by the enlarged spleen. He, therefore, asks for recognition of congenital icterus in the adult from spleno-hemolysis as a separate morbid entity.

62. **Isolated Loop of the Jejunum to Connect Esophagus and Stomach.**—Roux reports a case in which this operation was successfully performed in his clinic at Lausanne. Tavel suggested some time ago that a piece of small intestine might be used for the purpose, and Roux was intending to experiment on animals when chance brought to the clinic recently a child with impassable stricture of the esophagus from the action of a caustic. As permanent relief was necessary, instead of merely making a gastric fistula, the upper part of the jejunum was mobilized, the connecting arteries ligated and severed, and the proximal end of the isolated loop was brought up through a subcutaneous passage to the neck, while the distal end was implanted in the anterior wall of the stomach. The stumps left in the jejunum after resection of this portion were united with a Murphy button. The isolated loop was cut considerably longer than the distance between the stomach and neck to allow for a sag in the loop as it entered the stomach, the arteries on this sag being left undisturbed. It thus served as a vascularized pedicle for the isolated piece of intestine. The technic is shown in detail in five illustrations, one of which is reproduced. In order to leave the intestine at rest, so far as possible, to allow it to grow to the subcutaneous passage, the esophagus sound was introduced and the upper end of the isolated loop, projecting from the incision in the neck, was tied around the sound and sutured to the skin just below. The fascia of the rectus was hollowed out a little to make room for the sagging lower end of the loop, and the epigastric incision was then sutured. At date of writing the wounds have healed, the child has grown stronger and is up and about, and the isolated loop can be seen contracting vigorously at times. Very little mucus emerges from the orifice, and there is no regurgitation of stomach content. Peristalsis seems to be normal. Solid food introduced is passed rapidly along and disappears in the abdomen, apparently tolerated as well as if not better than fluid food.



Esophago-jejuno-gastrostomosis.

63. **Action of Deprivation of Salt on Habitual Slow Pulse.**—Enriquez and Ambard report the case of a woman of 57 with pulse rate from 32 to 39 and arterial tension 23 cm. on the Potain sphygmomanometer. The patient complained of pains in the knees, dyspnea and dizziness during exertion. No treatment was instituted except banishing salt from the diet. In a week the dyspnea and dizziness had much subsided and by the end of seven weeks the pulse rate was 72, all symptoms had vanished and the patient had gained nearly 15 pounds in weight. This beneficial action of dechloridation on habitual slow pulse was observed likewise in a case reported last year by G. Brouardel and in another, unpublished, case of Weill-Hallé. Huchard has also reported a case in which the pulse rate increased on a milk diet and grew slow again when a mixed diet was resumed. This observer has long emphasized the importance of the cardio-renal synergy in the syndrome of the habitual slow pulse and advised an exclusive milk diet, as nephritis is very apt to complicate the cardiac trouble, and the milk diet wards off uremia. If the pulse rate increases on it, he regards this as a favorable consequence of the diuresis on the heart action. Enriquez and Ambard discuss whether the modification of bradycardia by deprivation of salt harmonizes with the new assumptions in regard to the functions of the bundle of His. They review a number of recent works in this line, especially those of Carlson, Meek, Lillie, Castaigne and Achard, showing the injurious action of solutions of salt on the cells in the test tube and in the living subject. This toxicity may be partially due to osmosis, but it seems to be principally a directly injurious action independent of the innervation. The effects of dechloridation in case of habitual slow pulse harmonize perfectly with these data, and analysis of the pathogenic conditions of the pulse reveals the curious and hitherto unique spectacle of the injurious action of the chlorids on a diseased muscle without any intermediation on the part of the nervous system. It demonstrates anew, they declare, the hypersensitiveness to the chlorids of the various tissues of the organism in the course of nephritis. In the case described the heart action passed through different phases of arrhythmia as the pulse rate gradually increased, duplicating in reverse order the phenomena noted by Erlanger as the result of compression of the bundle of His. The case further confirms Vaquez' assumption that many cases of arrhythmia are merely the consequence of a lesion in the myocardium severe enough to induce bradycardia, but not sufficiently serious to modify objectively the heart rhythm.

Beiträge zur klinischen Chirurgie, von Bruns', Tübingen.

Last indexed, page 3\0.

64 (L, No. 2, pp. 465 665.) *Loose Incarceration of Intestine in Hernia. (Die schlaffe Darmeinklemmung bei Hernien.) **Wilms.**

65 *"Spontaneous" Rupture of Rectum. (Sogenannte Spontan Rupturen des Rectums.) H. Heineke.

66 *Injuries and Suture of Heart. (Herzverletzungen und Herznaht.) C. Sultan.

67 *Pulmonary Complications after Abdominal Operations. (Lungen-Komplikationen nach Bauch-Operationen.) A. Läwen.

68 Chronic Rheumatic Lymphangitis. (Eine besondere Art von Schmerzen am Unterschenkel und Fuss.) Wilms.

69 *Treatment of Complicated Fractures. (Komplicierte Frakturen.) H. Rimann.

70 Suppuration in Gouty Joints. (Gelenkeiterung bei Gicht.) A. Läwen.

71 Cure of Portal Ascites by Omentopexy. (Ascites infolge Pfortader-Kompression, geheilt durch die Talma'sche Operation.) H. Meyer.

72 Tendon Covering for Diaphysis Stumps. (Amputation mit Sehnendeckung zur Erzielung tragfähiger Diaphysenstümpfe nach Wilms.) R. Sievers.

73 Meningeal Hemorrhages. (Zur Kasuistik der Meningea Blutungen.) J. Sommer.

74 *Local Action of New Anesthetics on Motor Nerve Trunks. (Vergleichende experimentelle Untersuchungen über die örtliche Wirkung einiger neuer Lokal-Anästhetica-Stovain, Novokain und Alypin auf motorische Nervenstämme.) **A Läwen.**

75 *Spinal Anesthesia, By-Effects and After-Effects. (Lumbal-Anasthesie mit Stovain und Novokain, mit bes. Berücksichtigung der Neben-und Nachwirkungen.) H. Heineke and A. Läwen.

64. Loose Incarceration of Intestine in Hernia.—In elderly persons incarceration of a loop of the intestine is liable not to entail such severe symptoms as in younger patients. The size of the opening into the hernia has some influence, but the difference is mainly due to the lesser blood pressure in elderly individuals. The less the blood pressure the less serious the symptoms. In a case of compensated mitral stenosis the incarceration had lasted for eight days without entailing gangrene. In other cases in elderly persons the incarceration had lasted for five or six days without irreparable injury before the operation.

65. Spontaneous Rupture of the Rectum.—Heineke reviews the cases on record of rupture of the rectum without external violence, merely from exaggerated straining at stool. It has been observed hitherto only in women, or when the parts were the seat of some previous morbid process, or the floor of the pelvis was much relaxed. In a case personally observed, the rectum ruptured at a point 17 cm. above the anus, while the man was lifting a heavy weight. After 21 hours of peritonitic symptoms the abdomen was opened, but the collapse persisted so threatening that the operation was discontinued.

66. Injuries and Operative Treatment of the Heart.—Sultan reports a number of cases of trauma affecting the heart, including two in which this organ had to be sutured. One of the latter patients recovered. In case of diagnosis of injury to the heart and evidences of hemorrhage into the thorax he advises opening the thorax at once, incising in such a way that the incision can be extended to make a square flap to allow access to the heart at need. The effort to operate without opening the pleura, he thinks, is more theoretical than justified by facts as, in the majority of cases, pneumothorax accompanies the heart injury. He advises refraining from drainage, owing to the danger of superposed infection.

67. Lung Complications After Abdominal Operations.—Läwen states that the experiences at Leipsic confirm the theory that the larger proportion of pulmonary complications occur after operations above the umbilicus rather than after those in the lower half of the abdomen. Postoperative pneumonia was observed in 180 out of 9,755 patients operated on since 1895, with an average mortality of 65 per cent. In about a quarter of the cases the pneumonia was due to aspiration. Carcinomatous cachexia affords an unmistakable predisposition to lung complications. Pneumonia was observed only once after operations on the gall bladder, while it occurred in 36 per cent. of the gastrostomies on account of cancer, and in 6.6 per cent. of the 91 cases of resection of the stomach. Appendicitis and complicating peritonitis were responsible for 34 cases of pneumonia in 399 operations. Aspiration during the anesthesia is the usual cause, a tendency to thrombosis and embolism of the lungs being comparatively rare.

69. Treatment of Compound Fractures.—Rimann states that Trendelenburg aims to transform a compound into a simple fracture at once by closing the wound, and his mortality is scarcely half so high as that at other clinics where this principle is not followed. The tabulated results show a mortality of 3.7 per cent. of 238 cases of compound fracture treated in the clinic. The number of after-amputations is also less in proportion, while the patients were dismissed cured in two-thirds of the time required by other technics. The fractures were the result of impalement in 72 cases, of being run over by a wagon in 42, of crushing by a weight in 27, of injury in a machine in 15, of a kick from a horse in 14, and of a fall in 32. In 15.2 per cent. it was found possible to close the wound at once by a flap while in 11.5 per cent. a pedunculated flap had to be used, and in 9 cases a bridge. In 13 cases septic phenomena made extensive incisions and drainage necessary. The total list includes 12 fractures of a joint, 2 of the knee, 3 of the elbow and 7 of the ankle.

74 and 75. **Spinal Anesthesia.**—The experimental research and clinical experiences reported do not confirm the hopes as to the harmlessness of this method of anesthesia with stovain, novocain or alypin, with or without addition of a suprarenal preparation.

Centralblatt für Chirurgie, Leipsic.

Last indexed, XLVII, page 85.

76 (XXXIII, No. 48, pp. 1265-1296.) Technic of Plastic Operation on Tendons for Lax Paralytic Talipes Equinus. (Sehnenplastik beim schlaff paralytischen Spitzfuss.) S. Kofmann.
77 Support for Pelvis. (Beckenstütze.) E. Schultze.
78 (No. 49, pp. 1297-1320.) *Plastic Operation on Peritoneum with Isolated Pieces of Omentum (Peritonealplastik mit isol. Netzstücken.) C. Springer.
79 Total Dorsal Dislocation of Wrist and of the Tarso Metatarso Articulation. (2 seltene Luxationen.) W. v. Brunn.
80 (No. 50, pp. 1321-1344.) Partial Resection of Spermatic Cord in Radical Operation for Inguinal Hernia. (Part. Resektion des Samenstrangs bei Op. des Leistenbruches.) Z. Slawinski.
81 *Incision in the Side of the Neck for Removal of Foreign Bodies in the Esophagus without Opening the Latter. (Trachelotomia externa.) F. Franke.
82 (No. 51, pp. 1345-1376.) *Technic of Treatment of Fistula. (Fistelbehandlung.) V. E. Mertens.
83 Benzin-Iodin Catgut. (Benzin-Iodcatgut.) Mindes.

78. Plastic Operations on the Peritoneum with Isolated Pieces of Omentum.—Springer does not believe that isolated pieces of omentum are practicable for plastic operations on the peritoneum, as his extensive experimental work with dogs has shown that adhesions are liable to develop, with other drawbacks.

81. Removal of Foreign Bodies from Unopened Esophagus.—Franke made an incision in the side of the neck under chloroform and was then able to manipulate upward and remove through the mouth a set of false teeth which the patient had swallowed. It had lodged just below the larynx. In looking over the literature he has found only two cases in which this technic was followed, and yet in 366 cases of esophagotomy on record he is sure that in many instances it would have proved equally effectual, and have made the esophagotomy unnecessary.

82. Aspiration Treatment of Fistulas.—Mertens reports excellent results in the cure of persisting postoperative or traumatic fistulas under aspiration with the Bier suction apparatus. He relates a few instances of the cure, among others, in seven days of a fistula which had persisted for seven weeks without displaying any tendency to heal. In other cases the lack of any tendency toward healing under aspiration treatment for a few days justified the assumption of a foreign body lurking in the depths of the fistula; this was found and removed, after which the fistula rapidly healed. He applies the suction apparatus with its full force from the first, inducing the maximal aspiration of which it is capable. This sudden aspiration of blood to the region fills the blood vessels, tears the torpid granulations and thus freshens the entire surface of the fistula. Blood exudes until several cubic centimeters of blood have accumulated in the aspirating bell. After this the force of the aspiration is reduced and the apparatus is left in place for about 45 minutes as usual. The bleeding gradually subsides and at last only a little serum is aspirated. The same procedure is repeated on the two following days, and by the end of a week the fistula is generally completely healed.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

84 (XXXIII, No. 1, pp. 1-48.) Tendon Tumors in Children. (Sehnengeschwülstchen.) Pels-Leusden.
85 *Treatment of Pleurisy with Effusion. (Exsudative Pleuritis.) A. Fraenkel. Clinical lecture.
86 *Chronic Tuberculous Meningo encephalitis from Clinical and Forensic Standpoint. (Chron. Men-enceph. tub.) F. Landois.
87 *Influence of Thyroid Gland on Development of Embryos. (Schilddrüse und Entwicklung des Embryos.) M. Bleibtreu.
88 Mechanical Action on Organism of Lowering of Atmospheric Pressure. (Mech. Wirkungen der Luftdruckerniedrigung auf den Organismus.) C. Jacobj.
89 Auditory and Motor Optic Sequelæ of Convulsions. (Folgeerscheinungen nach Krampfanfällen.) A. Pick.
90 *Injuries from Roentgen Treatment. (Roentgenschädigungen in der medizinischen Radiotherapie.) K. Engel.
91 Case of Paraurethral Gonorrhea. (Histologie der chronischen Gonorrhoe.) P. Cohn.
92 Harmfulness of Coffee. (Schädlichkeit des Kaffees.) E. Harnack.
93 Regulations Admitting Physicians to Practice in Foreign Lands. (Zulassung zur ärztlichen Praxis im Auslande.) J. Schwalbe.
94 (No. 2, pp. 49-88.) *Influence of Roentgen Rays on Albumin Metabolism in Exophthalmic Goiter. (Eiweissumsatz bei der Basedowschen Krankheit.) C. Rudinger.
95 *Report of German Sleeping Sickness Commission. (Expedition zur Erforschung der Schlafkrankheit.) R. Koch.

96 Study of Hexamethylenamin and Its Salts. (Hex. und seine Salze-Cystopurin.) P. Bergell. Id. O. E. Loose.
97 *Diseases Simulating Typhoid Fever. (Typhusähnliche Erkrankungen.) Jürgens. (Commenced in No. 1.)
98 *Internal Treatment of Appendicitis. (Int. Behandlung der App.) M. Pfister.
99 Case of Glycosuria after Subsidence of a Goiter. (Glyk. nach Kropfschwund.) Boldt.
100 Simplification of the Heller Ring Test. (Hellerschen Ringprobe.) F. Sachs.
101 Epidemic Cerebrospinal Meningitis Two Hundred Years Ago. (Genickstarre vor 200 Jahre.) Radmann.

85. **Treatment of Pleurisy with Effusion.**—Fraenkel remarks that he has scarcely ever witnessed any benefit from the salicylates in pleural inflammation, but that their use is always indicated when there is a suspicion of a rheumatic basis. He pays tribute to Bowditch as the pioneer in the line of thoracentesis with aspiration, and advises puncturing in the fourth interspace on the right side and in the fifth on the left, between the maxillary and front axillary lines, with the patient reclining in case of a large effusion. If the effusion does not extend so high, the trocar must be introduced in the back, as high as possible so that the cannula will not interfere with the diaphragm. If respiration is much impeded, the patient should sit, the arm of the sound side hanging over the back of the chair, and the arm on the affected side raised or, still better, the hand placed on the shoulder of the sound side. He recommends administration of 0.005 or 0.01 gm. morphin hydrochlorate immediately before puncturing to suppress coughing. He advises never to withdraw more than 2 or 2.5 liters at a time, and to stop at once if the patient has an uncontrollable cough or complains of pain in the chest, or if the pulse grows weak. If aspiration is continued after a warning of this kind there is a likelihood of incipient pulmonary edema with "albuminous expectoration." After the puncture is the time when diuretics and "drugless" measures to promote the absorption of the effusion prove their usefulness. Fraenkel gives powerful diuretics at this time, and small doses of digitalis or strophanthus if the heart requires a tonic. He also applies revulsion, painting the affected side with tincture of iodin or rubbing in a piece of iodin salve the size of a walnut: (Tinct. iodin, 0.1 gm.; potassium iodid, 2 gm., and green soap and lanolin, each 10 gm.). The salve is especially useful in case of tuberculous pleurisy. The contraindications for puncture are few; ulcerative processes in the lungs, of course, impose caution. In case of cancerous degeneration of the pleura the aspiration may cause great pain, dyspnea or a tendency to hemorrhage, and the procedure must be abandoned or only small amounts of fluid withdrawn at a time. Systematic respiratory exercises are useful after the effusion has entirely vanished, to stretch the forming adhesions. The patients should be instructed to take from five to ten deep breaths every hour or so, and also to exercise the trunk by twisting it on its axis, bending sideways, raising the arms above the head, etc., with, later, cautious mountain climbing.

86. **Curability of Chronic Meningoencephalitis.**—Landois relates a case of chronic tuberculous meningoencephalitis in which the nodules shriveled by a cicatricial process, without cheesy degeneration. A permanent cure was at hand, when the patient met with a traumatism affecting his head, which whipped up the chronic, almost extinguished process into a fatal exacerbation.

87. **Influence of Thyroid Treatment on Development of Rabbit Embryo.**—Bleibtreu reports experiments which demonstrate, he thinks, that in gravid rabbits under thyroid treatment the tendency is toward arrest of gestation and reabsorption of the fetus. The disturbances in gestation observed closely resemble those seen when gravid rabbits are exposed to the Roentgen rays or are injected with cholin.

90. **Roentgen Injuries in Medical Radiotherapy.**—Engel writes from Koranyi's clinic at Budapest to discuss some of the by-effects of radiotherapy as reported in the literature and as personally observed. In some cases violent suffocation was observed after exposure of a cancer in the mediastinum, or general weakness and nausea. These functional disturbances he explains as probably of psychic origin. A papulous exanthem with high intermittent fever has been sometimes observed, with slight subjective symptoms, the syndrome being due, probably, to toxins formed by the destruction of tissue as it preceded exfoliation. The prognosis is favorable. The action of toxins liberated by the exposures is probably also the cause of the fever noted in Roentgen treatment of leukemia and pseudoleukemia. In a personal case of leukemia reported, intense toxemia developed after 350 minutes of exposures in the course of 11 days. The patient was a man of 54, with enlarged glands and spleen, 2,223,000 red and 246,000 white corpuscles; the general condition was good. The spleen, the neck and the axilla on both sides were exposed to a hard tube for five minutes each daily. The reds dropped to 1,900,000, the whites to 110,000, but the exposures were continued until the figures were respectively 1,620,000 and 55,000, and treatment was suspended. The general condition rapidly deteriorated with weakness of the heart and diarrhea, and the patient soon succumbed. As the leukemia before treatment had shown a chronic tendency, the rapid deterioration under the treatment can be explained only by toxemia. There was no dermatitis. Krause has reported a case in which exposures up to 3,650 minutes had been given without harm. Schenck has also reported a case of rapid deterioration under Roentgen treatment of a febrile leukemia. Engel summarizes the cases of sudden death that have been published as occurring after a course of Roentgen treatment. To prevent all such mishaps he declares that no exposure should last more than two minutes, and the tube should not be nearer than 20 cm., or four minutes with the tube 35 cm. distant. The same surface should not be exposed more than twice or three times on the same day, and the exposed surface should be protected with tin foil and the vicinity with sheets of lead. The patient's susceptibility should be ascertained by tentative, brief, mild exposures at first, and the region exposed should be of small extent. After five or six exposures this treatment should be suspended for a week, during which time the blood picture should be carefully supervised. At the slightest indication of an undesired by-effect the exposures should be suspended and not resumed for a long time. In case of symptomatic improvement, treatment should be suspended at once, and the patient kept for a time under strict control.

94. **Roentgen Treatment of Exophthalmic Goiter.**—Rudinger concludes his study of the albumin metabolism under Roentgen exposures in two cases of exophthalmic goiter, with the advice to make a single tentative exposure of the thyroid in every case. The results may justify further treatment in this line, he says, especially if the previously abnormally increased breaking down of albumin is replaced by retention of nitrogen after the exposure, as in his cases.

95. **Report of German Sleeping Sickness Expedition.**—Koch confirms in this latest installment of his report the facts presented in previous installments, summarized in THE JOURNAL recently on page 49. A town has grown up around the camp of the party, huts and barracks erected by the natives for the sick, who flock to them for relief; 986 were under treatment at the date of writing. Koch finds the trypanosomes so constantly in examining the glands that he regards this finding as of the utmost importance not only for the diagnosis, but also as an index of the influence of the medication. Even in the 185 apparently almost moribund cases a number of the patients have been so much improved that consciousness has returned, they have regained control of their sphincters, and are able to walk without help. In every instance to date the improvement under arsenic has continued a progressive course with no retrogression. He thinks it probable that the trypanosomes in the body, destroyed by the drug, have an immunizing action. His theoretical research, he adds, has produced no tangible results to equal those obtained in the clinic. In two instances the specific trypanosomes were encountered in the salivary glands of the glossina; a condition similar to that observed with the malaria parasite and the anopheles. He is continuing his work with crocodiles, but has had no practical results so far.

97. **Diseases Simulating Typhoid.**—Jürgens describes eight cases in which the syndrome suggested typhoid fever, but autopsy or the course of the affection revealed appendicitis, miliary or general intestinal tuberculosis, or some other disease. In one case paratyphoid infection from contaminated meat

caused severe gastroenteritis, simulating typhoid fever during the first week, in a number of persons who had eaten the meat. He warns against allowing the etiologic findings to mislead the diagnosis. The clinical term "paratyphoid" is not correct, he says, as the affections induced by the paratyphus bacillus may have nothing in common with typhoid fever.

98. **Internal Treatment of Appendicitis.**—Pfister relates the favorable experiences at Erb's clinic with ice and large doses of opium in treatment of appendicitis. He recommends this treatment in every primary case except when the general condition indicates peritonitis.

Münchener medizinische Wochenschrift.

102 (LIV, No. 2, pp. 57-104.) Influence of Excesses of Student Life (beer and fencing) on the Heart. (Biertrinken und Fechten.) A. Bingel.
103 Thermodynamic Study of the Muscles. (Thermodynamik des Muskels.) K. Bürker.
104 Correlation in Heredity from Ophthalmologic Standpoint. (Korrelation bei Vererbung in der Augenheilkunde.) F. Best.
105 *Early Diagnosis of Pulmonary Tuberculosis. (Frühdiagnose, etc.) H. Arnsperger.
106 *Roentgen Diagnosis of Pulmonary Tuberculosis. (Roentgenologische Diagnose.) Pförringer and Bunz.
107 *Gastropexy and Retention. (Gastropexie und Retention.) E. Nyrop.
108 *To Render the Kneejerk More Prominent. (Verstärkung des Kniephänomens.) O. Rosenbach.
109 Isolating Cabinets in the Waiting-room of Dispensaries for Children. (Prophylaxe der Infektionen in den Wärteräumen von Kinderambulatorien.) E. Fromm.
110 Nature and Treatment of Alimentary Disturbances in Infants. (Ernährungsstörungen.) M. Pfaundler. (Commenced in No. 1.)
111 Infant Mortality in the Hospital. (Säuglingssterblichkeit im Krankenhaus.) O. Soltmann.
112 Birth Rate and Fertility. (Geburtenziffer und Fruchtbarkeit.) O. Neustätter.

105 and 106. **Roentgen Early Diagnosis of Pulmonary Tuberculosis.**—Arnsperger writes from Erb's clinic to call attention to the instructive results obtained from Roentgenoscopy in cases of incipient tuberculosis. Almost invariably the first pathologic changes in the apex were perceptible and confirmed the diagnosis. In an extensive experience he has found that the findings in sound lungs are remarkably constant, much more so than percussion and auscultation findings. Any variation from the normal is readily recognized. It is important to have an adjustable diaphragm and an adjustable tube, to examine the lung from various points. He did not find that the excursions of the diaphragm were constantly impeded, as Williams has asserted. This was noted in only 6 per cent. of the cases, and it is probably due to pleuritic adhesions. Changes in the clearness of the Roentgen picture accompany the movements of breathing, the apices, especially, showing varying clearness and size under the influence of respiration. The clear space corresponding to the apex in the Roentgen picture becomes cloudy in case of disease. If the patient breathes deep the sound side becomes perceptibly clearer, while the affected side shows nearly the same cloudy appearance or may even grow darker as the less elastic apex is compressed by the rest of the lung. The findings are approximately the same for a fresh, incipient process as for a healed lesion.

Pförringer and Bunz confirm his statements, especially in regard to the lack of constancy in the excursions of the diaphragm. They review the Roentgen findings in various established affections, and advise combination of radioscopy with radiography as giving the best results. In 54 cases of apical tuberculosis the Roentgen findings coincided with the symptoms, and in 20 the Roentgen rays revealed more extensive changes than had been surmised from the symptoms and other diagnostic measures, and in three cases the findings were less marked than with other measures. In the incipient cases the slight cloudiness of the apex is seen best in the radiograph and may escape radioscopy. Infiltration causes light diffuse shadows and cloudiness, the cloudiness sometimes showing darker specks.

107. **Gastropexy and Retention of Stomach Contents.**—Nyrop relates some instances of spontaneous fixation of the stomach to the parietal peritoneum or abdominal wall after an operation. The fixation interfered with the motor function of the stomach and led to retention of stomach contents in time. The findings emphasize the importance of testing to see whether or not retention of contents exists as a preliminary to any operation on the stomach, and they also point to the danger of retention as a consequence of artificial gastropexy. In one case of cancer and retention the tumor at the pylorus was resected and gastroduodenostomy done. The stomach was much dilated, with thickened walls. The patient was in good health for nearly three years, after which oppression and pains in the epigastrium at night made daily lavage of the stomach necessary. After three months of progressive retention of stomach contents and emaciation the abdomen was opened and the stomach found fastened to the parietal peritoneum. The weakened stomach had not been able to force the stomach content up to the opening into the duodenum, which was at about the normal height. The consequence was dilatation of the posterior wall of the stomach with secondary retention and resulting inanition, but no traces of cancer. Without anatomic inspection, the case would certainly have been regarded as one of recurring cancer. In another case gastropexy was done for ptosis. The patient was as "nervous" after as before the operation and retention gradually developed. The musculature was so weak by this time that even gastroenterostomy then was unable to put an end to the retention completely. In another case posterior gastroenterostomy was done for hematemesis and symptoms of retention. The stomach walls were found remarkably thin and atrophic, and after a few months of freedom the old symptoms returned and the patient died. Autopsy revealed spontaneous fixation of the stomach. The thinness of the walls had probably entailed the speedy recurrence of the retention. In the fourth and last case universal edema was attributed to existing ptosis of the stomach, with occasional evidences of retention of its contents. A fold was taken up in the stomach wall, and it was fastened in place (gastroplication and gastropexy). After six months of health the posterior wall stretched and the symptoms of hour-glass stomach developed. If gastroenterostomy had been done at first this probably might have been prevented.

108. **To Render the Knee Jerk More Prominent.**—Rosenbach gives the patient a newspaper or large book to hold and bids him read aloud a certain passage rapidly and loudly. This diverts his attention. He is unable to see his feet owing to the interposed book or paper, and the effort required to hold it ensures the most favorable conditions for the test. When this method is impossible Rosenbach prefers Guttmann's method. This consists in raising the leg of the reclining patient, lifting it up a little with a handkerchief while with another handkerchief, just above the knee, held by an assistant, the thigh is raised also, the knee thus raised forming an obtuse angle.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery by Representative Surgeons of the United States and Canada. Editors, Joseph D. Bryant, M.D., and Albert H. Buck, M.D. Complete in Eight Volumes. Illustrated. Volume Two. Muslin Binding. Pp. 778. Price, $7.00. New York: William Wood & Co.

STUDIES FROM THE INSTITUTE FOR MEDICAL RESEARCH, Federated Malay States. Observations in the Federated Malay States on Beriberi. By C. W. Daniels, M.B., M.R.C.S., Eng. Paper. Pp. 105. Price, three shillings and sixpence. London: E. G. Berryman & Sons.

NINTH BIENNIAL REPORT OF THE PENNSYLVANIA INDUSTRIAL REFORMATORY. Huntingdon, Pa. Paper. Pp. 74. From Jan. 1, 1905, to Dec. 1, 1906. Printed and Bound by Inmates of the Reformatory.

REPORT OF THE PRESIDENT OF THE BOARD OF HEALTH of the Territory of Hawaii for the Year Ending June 30, 1906. Paper. Pp. 115. Honolulu: The Bulletin Publishing Company, 1906.

PRINCIPLES OF MICROSCOPY. Being a Handbook to the Microscope by A. E. Wright, F.R.S., Hon. F.R.C.S.I. Cloth. Pp. 250. Price, $6.50. New York: The Macmillan Company, 1907.

A VICTORIOUS DEFEAT. The Story of a Franchise. By Charles Frederic Gilliam. Illustrated by Ted Ireland. Cloth. Pp. 371. Boston: The Roxburgh Publishing Company.

PUBLICATIONS OF CORNELL UNIVERSITY MEDICAL COLLEGE DISPENSARY, New York City. Medical Report. Paper. Pp. 156. New York City.

PRINCIPLES OF SPELLING REFORM. By F. S. Allen. Paper. Pp. 38. New York: The Bradley-White Company.